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# The Value Relevance of Corporate Social Responsibility: Focusing on Donation Expenditure

Gee Jung Kwon[1]

[1] Department of Business Administration and Accounting, Hanbat National University, Daejeon, Republic of Korea

Correspondence: Gee Jung Kwon, Department of Business Administration and Accounting, Hanbat National University 125 Dongseodaero, Yuseong-Gu, Daejeon 305-719, Republic of Korea. E-mail: geejung@hanmail.net

## Abstract

This paper investigates the value relevance of corporate social responsibility. In particular, the paper examines the time lag value relevance of donation expenditure on firm value over the period of 2000–2014 in the listed Korean stock markets. Through empirical analysis, the paper provides evidence that donation expenditure has a significant effect on future firm value.

The empirical results of this paper support research hypothesis 1 (donation expenses have an effect on firm value) and research hypothesis 2 (donation expenses have a time lag effect on firms' future value). In particular, the results show that donation expenses have an effect on firm value and the time lag interval is from two to 12 years. These results suggest that donation expenses can be regarded as assets that have potential for firms' future cash flows.

The empirical evidence of this paper suggests there should be debate on whether the accounting treatment of donations should be changed in Korean accounting practices.

**Keywords:** corporate social responsibility, donation expenditure, firm value, time lag effect, value relevance

## 1. Introduction

For several decades, many companies have invested a great amount of resources in donation activities classified as corporate social responsibility (CSR). The concepts of CSR have evolved over time, and CSR has two definitions from two points of view. The socio-philanthropic perspective defines CSR as actions and charitable programs restraining profit maximization, and the legal standpoint of complying with regulations and rules defines CSR as charitable actions beyond the minimum legal parameters (Andrews, 1973; Buehler & Shetty, 1976; Hollender, 2004; Pierce & Aguinis, 2009; D'Aprile & Talò, 2014).

Donation is defined as charitable gifts or actions without any business purposes. Donation may take various forms such as cash, service, food, medicine, or goods. On the other hand, advertisement and entertainment costs are spent for business purposes. Thus, donation cost is differentiated from advertisement and entertainment cost because of its charitable purpose, with the firm getting nothing in return. Even though donation is not for business but for charity, many companies willingly incur donation expenses, and voluntary donation cost is different from imposed corporate tax.

Even though donation is not for business purposes, most CEOs usually believe that doing what is good improves the image of the business, and sometimes companies that spend money on CSR have less risk of negative business incidents. According to Fombrun, Gardberg, and Sever (2000), corporate donation is undertaken because of the faith that a good reputation gives companies intangible benefits such as a favorable market opinion. In the same vein, Fry, Keim, and Meiners (1982) insist that profit and benefit are generally considered when companies engage in charitable actions.

Because of this, many studies have questioned the value relevance of donation expenses in business. They have used donation cost as a proxy variable of CSR and investigated the empirical relationship with firm value (Vance, 1975; Alexander & Bucholz, 1978; Anderson & Frankle, 1980; Cochran & Wood, 1984; Aupperle,

Carroll, & Halfield, 1985; Ullmann, 1985; McGuire, Sundgren, & Schneeweis, 1988; Waddock & Graves, 1997; Fombrun et al., 2000; Brown, Hellan, & Smith, 2006; Fishman, Heal, & Nair, 2006; Lev, Christine, & Suresh, 2006; Parket & Eilbirt, 2006; Bird, Hall, Momentè, & Reggiani, 2007). In those previous studies, firm value is usually defined as market value of equity, calculated by summing all of the company's outstanding shares. Therefore, the firm's market value of equity is always changing based on relevant value factors such as book value of equity, net income, R&D investment, and training costs.

For example, Waddock and Graves (1997) report that corporate social performance is positively associated with financial performance. Fishman et al. (2006) and Brown et al. (2006) also document that companies in fierce competition spend much on donation expenses, and this has a positive influence on firm value. Although donations are not made for business purposes, these papers assume that donation cost promotes sales, which is finally associated with an increase in firm value.

Conversely, other studies document that excessive donation activity increases the total cost of business, and finally leads to a decrease in firm value (Davis & Blomstorm, 1975; Fredirick et al., 1988; Barnea & Rubin, 2006). For example, Barnea and Rubin (2006) provide evidence that if insiders such as managers and large blockholders undertake donation activities solely for personal reputation benefits, this may lead to over-investment, which can decrease firm value.

Because of the competing evidence on the value relevance of donation, it is still treated as a temporary activity and recognized as a business expense. In many countries, including Korea, donation activities are defined as one-year business expenses in the accounting rules. Therefore, there is still a limited consideration of whether business donation activities influence the market value of equity.

This study deals with the question of whether the CSR activities of modern companies increase or decrease firm value. For a more precise empirical analysis, this paper uses donation expenditure as a substitute for CSR, like the previous literature (Bae, Kim, & Kim, 2008; Kim, Hong, & Kim, 2008; Shin, Kim, & Kim, 2011; Kwon, 2013). The research question of this study is whether donation expenses should be considered an important factor when determining firm value. Moreover, this paper particularly focuses on the time lag value relevance of donation expenditure to test whether corporate donation activities should be treated as "assets" or "business expenses" in firms listed on the Korean stock markets. If the empirical relationship between donation expenditure and firm value can be analyzed, the results of this paper will contribute to the accounting literature on the value relevance of CSR.

The purposes of this paper are twofold. On the one hand, this paper examines whether corporate donation is significantly associated with firm value in Korean financial markets. This is attempting to verify whether Korean investors take donation into consideration when they invest in Korean companies. On the other hand, this paper tries to determine whether business donation has value relevance for a long period. If this paper provides empirical evidence of the long-term value relevance of donation expenses, the accounting treatment of donation could be changed.

The remainder of this study is organized as follows. Section 2 provides a brief overview of the debate on the value relevance of donation activities. Section 3 suggests research hypotheses and develops empirical frameworks for the link between donation expenditure and firm value. Section 4 provides empirical results on the relationship between donation and financial performance as a proxy for firm value. Finally, the study is summarized in section 5.

## 2. Literature Review

For decades, many papers have questioned the tangible and intangible benefits of being socially benevolent for companies. For example, McAlister and Ferrell (2002) insist that organizations have recognized the importance of benevolent philanthropy to business even though it is not always associated with company profits. They also report that most organizations in the twenty-first century strategically link philanthropy with marketing and advertising in business. Moreover, according to Syverson (2006), to a certain extent, corporate donation is intended to increase the public image, name recognition, and consumer loyalty for a business.

However, there are conflicting views about whether donation activities are associated with firm value. One view is that donation activities increase firm value because socially benevolent companies have a favorable corporate reputation, which can lead to tangible and intangible benefits (Anderson & Frankle, 1980; Cochran & Wood, 1984; Aupperle et al., 1985; Soloman & Hansen, 1985; Ullmann, 1985; McGuire et al., 1988; Shaker, Oviatt, & Minyard, 1993; Waddock & Graves, 1997; Balabanis, Philips, & Lyall, 1998; Fombrun et al., 2000; Hillman & Keim, 2001; Goll & Rasheed, 2002; Joyner & Payne, 2002; Carden & Darragh, 2004; Brown et al. 2006;

Fishman et al., 2006; Lev et al., 2006; Parket & Eilbirt, 2006; Bird et al., 2007).

For example McGuire et al. (1988) investigate whether corporate reputation index data from Fortune magazine's annual survey, used as a proxy for donation activities, influence financial performance factors such as risk-adjusted return and total return. They provide evidence of a positive relationship between donation activities and firm performance. This result is inconsistent with the empirical results of Cochran and Wood (1984), who report no significant relationship exists between firm performance and donation activities. McGuire et al. (1988) suggest the possibility that corporate donation activities can promote business profits.

In addition, Herremans et al. (1993) hypothesize that firms engaging in more donation activities have better financial performance. They provide evidence that a positive association exists between donation activities and stock market returns. Their empirical results are similar to those of McGuire et al. (1988).

Waddock and Graves (1997) also explore the empirical relationship between corporate donation activities and financial performance and find a positive relationship. They also provide evidence that donation activities are both the cause and the effect of financial performance. Their results are consistent with the empirical results of McGuire et al. (1988).

Goll and Rasheed (2002) report that the direction of association between donation activities and firm value mainly depends on the business environment. They document that if the external business environment is supportive to the firm, donation activities have a positive effect on firm value.

Another study is that of Bird et al. (2007). They examine the relationship between corporate donation activities and the market value of equity. They find that corporate donation activities are significantly related to two- or three-year lagged returns as well as one-year lagged returns.

Contrary to these studies, others report a negative relationship between donation activities and firm value because being socially benevolent activities has costs for the business, which decreases financial performance (Vance, 1975; Aupperle et al., 1985; Ullmann, 1985; McGuire et al. 1988; Riahi-Belkaoui, 1992; Wright & Ferris, 1997; Teoh et al., 1999; McWilliams & Siegel, 2000).

For example, Vance (1975) investigates the association between donation activities and stock returns, and finds donation activities have no value relevance in all sample companies except one. Aupperle et al. (1985) and Teoh et al. (1999) also report no significant relationship between donation activities and firm value.

McWilliams and Siegel (2000) use the model of Waddock and Graves (1997) to test the link between donation activities and financial performance by adding intangible variables such as R&D intensity and advertising intensity. They show that donation activities have no significant relationship with financial performance.

## 3. Hypotheses and Research Model

### 3.1 Research Hypotheses

As mentioned earlier, the argument over the empirical relationship between donation activities and firm value has lasted for decades. The debate on the value relevance of donation expenses stems from Friedman (1970). Friedman (1970) insists companies making charitable donations have a competitive disadvantage in the cost-benefit relationship. Donation expenses incur costs that reduce business profits. In the same vein, many empirical studies report no significant relationship between donation activities and financial performance (Vance, 1975; Aupperle et al., 1985; Ullmann, 1985; McGuire et al., 1988; Riahi-Belkaoui, 1992; Wright & Ferris, 1997; Teoh et al., 1999; McWilliams & Siegel, 2000).

However, other papers reveal that donation activities significantly increase firm value because of the good reputation created through an act of charity (Anderson & Frankle, 1980; Cochran & Wood, 1984; Aupperle et al., 1985; Soloman & Hansen, 1985; Ullmann, 1985; McGuire et al., 1988; Shaker et al., 1993; Waddock & Graves, 1997; Balabanis et al., 1998; Fombrun et al., 2000; Hillman & Keim, 2001; Goll & Rasheed, 2002; Joyner & Payne, 2002; Carden & Darragh, 2004; Fishman et al., 2006; Lev et al., 2006; Brown et al., 2006; Parket & Eilbirt, 2006; Bird et al., 2007).

To end the dispute on the relationship between donation activities and firm value, this paper tries to test the sign of the relationship between donation activities and firm's financial performance in firms listed on the Korean stock markets. In addition, this paper investigates whether the influence of donation expenses on firm value continues over several years. To do so, this paper establishes two hypotheses. The first hypothesis is to test the value relevance of donation expenses, and the second is to investigate whether donation costs have the potential ability to create future cash flows in business.

H1: Donation expenses have an effect on firm value.

H2: Donation expenses have a time lag effect on firms' future value.

*3.2 Empirical Model*

In accounting, assets are defined as tangible and intangible resources creating future potential cash flows. If ideal firm value is the sum of future potential cash flows, firm value is a function of assets (equation 1).

$$V = \theta \text{ (Assets)} \tag{1}$$

Here, V=firm value, Assets=value of assets, $\theta$ =response coefficient of assets in firm value.

Assets in business is divided by identified assets and unidentified assets in the financial statements (equation 2).

$$V = \theta \text{ (RA + URA)} + \varepsilon \tag{2}$$

Here, V=firm value, RA=identified assets, URA=unidentified assets, $\theta$ =response coefficients of assets in firm value, $\varepsilon$ =error term.

Equation (2) shows enterprise value as a function of identified assets (RA) and unidentified assets (URA). RA is the total tangible and intangible assets, and URA means assets creating future cash flows but that do not appear in the financial statements. Advertising, ordinary R&D, and training costs are included in URA. This paper assumes that donation cost may create future cash flows, like advertising, ordinary R&D, and training costs, so it should be included in URA. Because this paper focuses on revealing the value relevance of donation cost, URA is divided into donation cost and other unidentified assets such as advertising, ordinary R&D, and training costs (equation 3).

$$URA - DON + \text{Other URA} \tag{3}$$

Here, URA=unidentified assets in financial statements, DON=donation costs, Other URA=other unidentified assets in financial statements (i.e., advertising, ordinary R&D, training costs).

Firm value is a function of RA, donation cost, and other URA, as seen by combining equations (2) and (3).

$$V = \theta \text{ (RA + DON + Other URA)} + \varepsilon \tag{4}$$

Here, V=firm value, RA=identified assets, DON=donation cost, Other URA=other unidentified costs (i.e., advertising, ordinary R&D, training costs), $\theta$ =response coefficient of assets in firm value, $\varepsilon$ =error term.

Generally, net income or operating net income proxies for firm value (V), and total assets in the balance sheet substitutes for identified assets (RA). Unidentified assets (URA) are not published on financial statements; however, if URA includes donation cost only, the total value of URA is calculated as the sum of unamortized donation cost. This paper defines the sum of unamortized donation cost as DONC. This paper hypothesizes that DONC creates current and future potential cash flows (equation 5).

$$DONC = \sum_k a_k AD_{t-k} \tag{5}$$

Here, DONC=total value of unidentified donation cost, $a_k$=response coefficient of donation cost in creating potential future cash flows.

Equation (6) is made by combining equations (4) and (5).

$$OI = \theta \text{ (TA + DONC + Other URA)} + \varepsilon \tag{6}$$

Here, OI=operating income, TA=total assets, DONC=unidentified donation cost, Other URA=other unidentified assets (i.e., advertising, ordinary R&D, training costs), $\theta$ =response coefficient in market value of equity, $\varepsilon$ =error term.

As empirical tests for the research hypotheses of this paper, the study converts equation (6) into equations (7) and (8):

$$\frac{OI}{S} = a_0 + a_1 \left(\frac{TA}{S}\right)_{i,t-1} + a_2 \left(\frac{AD}{S}\right)_{i,t} + a_3 \left(\frac{RD}{S}\right)_{i,t} + a_4 \left(\frac{TR}{S}\right)_{i,t} + a_5 \left(\frac{DON}{S}\right)_{i,t} + \varepsilon \tag{7}$$

$$\frac{OI}{S} = a_0 + a_1 \left(\frac{TA}{S}\right)_{i,t-k-1} + a_2 \left(\frac{AD}{S}\right)_{i,t-k} + a_3 \left(\frac{RD}{S}\right)_{i,t-k} + a_4 \left(\frac{TR}{S}\right)_{i,t-k} + a_5 \left(\frac{DON}{S}\right)_{i,t-k} + \varepsilon \tag{8}$$

Here, OI=operating income before deducting advertising, ordinary R&D, training, and depreciation cost; S=total sales; TA=total assets; DON=donation cost in period t; AD=advertising cost in period t; RD=ordinary R&D cost in period t; TR=training cost in period t; $a_1\ a_2\ a_3\ a_4\ a_5$=coefficients; $\varepsilon$ =error term.

The test model basically assumes operating income is a linear function of current and lagged donation cost, and every variable of this paper is standardized by total sales in period t. To test the multi-period value relevance of donation cost, this paper replicates the time lag empirical model in Alt (1942) and Tinbergen (1940).

## 4. Empirical Analysis

*4.1 Sample Selection*

This paper extracts sample data from the KIS-VALUE (Korea Investor Service-Financial Analysis System) database. The sample data cover the 15-year period from 2000 to 2014. The study excludes outliers (Note 1), companies that do not settle their accounts in December, those in the banking business, and legal management companies. This paper also deletes impaired capital companies and firms that do not have variable data in the KIS-VALUE DB. This paper provides selected sample data in Table 1.

Table 1. Selection of sample firms

| | |
|---|---|
| Data sample extracted from KIS-FAS DB at the end of 2000–2014 (firm-year) | 32,265 |
| Minus (-): | 7,080 |
| Samples that do not settle their accounts in December annually | |
| Financial/banking companies | |
| Legal management companies | |
| Impaired capital companies | |
| Samples that do not have data in the KIS-VALUE DB | |
| Total data samples (firm-year) | 25,185 |

*4.2 Empirical Results*

4.2.1 Descriptive Statistics

Table 2 shows the descriptive statistics of main variables. The sample of this paper includes 25,185 firm-year observations for the period of 2000–2014. The dependent variable of this paper, OI/S, has a mean value of -0.06446, a minimum value of -1,011, and a maximum value of 34.24435. The independent variables, TA/S, TR/S, RD/S, and AD/S show mean values of 2.66893, 0.000526, 0.04838, and 0.000432, respectively. The main variable of this paper, DON/S, has a mean value of 0.00367, a maximum value of 33.07972, and a standard deviation of 0.25897.

Table 2. Descriptive statistics of main variables

| Variable | N | Median | Standard Deviation | Sum | Minimum | Maximum |
|---|---|---|---|---|---|---|
| OI/S | 25,185 | -0.06446 | 8.68837 | -1624 | -1011 | 34.24435 |
| TA/S | 25,185 | 2.66893 | 73.82662 | 67217 | 0 | 8272 |
| TR/S | 25,185 | 0.000526 | 0.02562 | 13.25415 | 0 | 3.96575 |
| RD/S | 25,185 | 0.04838 | 2.17609 | 1218 | 0 | 334.3246 |
| AD/S | 25,185 | 0.000432 | 0.00422 | 10.88994 | 0 | 0.22779 |
| DON/S | 25,185 | 0.00367 | 0.25897 | 92.4298 | 0 | 33.07972 |

*Note.* OI=operating income before deducting advertising, ordinary R&D, training, and depreciation cost; S=total sales; TA=total assets; DON=donation cost in period t; AD=advertising cost in period t; RD=ordinary R&D cost in period t; TR=training cost in period t.

4.2.2 Correlation Analysis

This paper performs a Pearson correlation analysis on the main variables in order to determine the direction and degree of empirical relationships among them (Table 2). The correlation statistics show that OI/S, TA/S, TR/S, RD/S, and DON/S are negatively related, but the association between OI/S and AD/S is positive. This result gives an indication of the value relevance direction of the main independent variables.

Table 3. Pearson correlation

|  | | OI/S | TA/S | TR/S | RD/S | AD/S | DON/S |
|---|---|---|---|---|---|---|---|
| OI/S | 1 |  | -0.95937 | -0.07609 | -0.75484 | 0.00223 | -0.54292 |
|  |  |  | <.0001 | <.0001 | <.0001 | 0.7237 | <.0001 |
| TA/S | -0.95937 | | 1 | 0.01634 | 0.66789 | -0.0016 | 0.60667 |
|  | <.0001 | |  | 0.0095 | <.0001 | 0.7999 | <.0001 |
| TR/S | -0.07609 | 0.01634 | | 1 | 0.01766 | 0.00396 | -0.00018 |
|  | <.0001 | 0.0095 | |  | 0.0051 | 0.5302 | 0.977 |
| RD/S | -0.75484 | 0.66789 | 0.01766 | | 1 | -0.00135 | 0.01932 |
|  | <.0001 | <.0001 | 0.0051 | |  | 0.8306 | 0.0022 |
| AD/S | 0.00223 | -0.0016 | 0.00396 | -0.00135 | | 1 | -0.00088 |
|  | 0.7237 | 0.7999 | 0.5302 | 0.8306 | |  | 0.8893 |
| DON/S | -0.54292 | 0.60667 | -0.00018 | 0.01932 | -0.00088 | | 1 |
|  | <.0001 | <.0001 | 0.977 | 0.0022 | 0.8893 | |  |

*Note.* OI=operating income before deducting advertising, ordinary R&D, training, and depreciation cost; S=total sales; TA=total assets; DON=donation cost in period t; AD=advertising cost in period t; RD=ordinary R&D cost in period t; TR=training cost in period t; Pearson's coefficient of correlation, two-sided test.

### 4.2.3 Value Relevance of Donation Expenses

The empirical relationship between donation expenses and operating income is shown in Table 4. Table 4 shows that total assets (TA/S) and ordinary R&D costs (RD/S) are negatively associated with operating income in most individual year regressions. Advertising cost (AD/S) shows a significant relationship with operating income in the periods of 2000–2004, 2007, and 2010, and training costs (TR/S) are significantly related to the dependent variable (OI/S) in the periods of 2000–2003 and 2005–2009.

Table 4 also presents that donation costs are positively associated with operating income at the 1% level of significance in the periods of 2001–2006, 2009–2010, and 2012. This result supports the hypothesis of this paper (H1: Donation expenses have an effect on firm value). This result indicates that donation expenses are more value-relevant than advertising and training costs. This is the same result as in previous studies such as Bae et al. (2008), Kim et al. (2008), Shin et al. (2011), and Kwon (2013), which provide evidence that donation cost is significantly associated with market value of equity in the Korean stock markets.

Table 4. Relationship between donation expenses and operating income

Research model 1: $\frac{OI}{S} = a_0 + a_1(\frac{TA}{S})_{i,t-1} + a_2(\frac{AD}{S})_{i,t} + a_3(\frac{RD}{S})_{i,t} + a_4(\frac{TR}{S})_{i,t} + a_5(\frac{DON}{S})_{i,t} + \varepsilon$

| Year | Number | F Value | Adj R-Sq | Intercept | TA/S | RD/S | AD/S | TR/S | DON/S |
|---|---|---|---|---|---|---|---|---|---|
| 2014 | 1,679 | 3.37*** | 0.0071 | 0.0641*** | 0.00132 | -0.12828 | 1.39792 | 20.01781 | 0.70882 |
| 2013 | 1,679 | 2.43** | 0.0043 | 0.05785*** | 0.00219** | 0.17231 | 1.02757 | -1.56399 | 2.10098 |
| 2012 | 1,679 | 5.53*** | 0.0134 | 0.06713*** | -0.00006068 | 0.30936*** | 0.45935 | 5.59586 | 3.26838*** |
| 2011 | 1,679 | 26.62*** | 0.0711 | 0.09067*** | -0.00333*** | -0.02878 | 0.85063 | 4.53881 | 1.27254 |
| 2010 | 1,679 | 197.98*** | 0.3722 | 0.13067*** | -0.0377*** | 0.18078*** | 2.6292** | 5.2725 | 10.19352*** |
| 2009 | 1,679 | 40.09*** | 0.106 | 0.07787*** | -0.00322*** | 0.46321*** | 2.28057 | 10.6816** | 4.04694*** |
| 2008 | 1,679 | 24.87*** | 0.0668 | 0.07833*** | -0.01555*** | 0.70473*** | -6.82314 | 20.2952*** | 0.45842 |
| 2007 | 1,679 | 8.44*** | 0.022 | 0.08672*** | -0.00504** | -0.18508** | 2.04218** | 22.27202*** | -1.2243 |
| 2006 | 1,679 | 361.63*** | 0.5196 | 0.18012*** | -0.1027*** | -0.72725*** | 1.19737 | 34.96249*** | 8.48364*** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2005 | 1,679 | 22.12*** | 0.0602 | 0.08487*** | -0.0205*** | 0.28339*** | 0.55471 | 18.22675*** | 8.41615*** |
| 2004 | 1,679 | 3455.22*** | 0.9127 | 0.30106*** | -0.24919*** | -0.82944*** | 5.77956** | 9.0393 | 19.03523*** |
| 2003 | 1,679 | 95.7*** | 0.2225 | 0.14442*** | -0.06043*** | -0.64735*** | 1.89473*** | 3.10847 | 10.00559*** |
| 2002 | 1,679 | 133.56*** | 0.2857 | 0.14462*** | -0.08447*** | -0.29893*** | 2.56792*** | 7.56316*** | 10.41332*** |
| 2001 | 1,679 | 958.55*** | 0.7421 | 0.21654*** | -0.15864*** | -0.47568*** | 5.8345*** | 16.00334*** | -10.3981*** |
| 2000 | 1,679 | 134.86*** | 0.286 | 0.14246*** | -0.11678*** | -0.5823*** | 2.07391** | 20.36541*** | 9.94552*** |

*Note*. OI=operating income before deducting advertising, ordinary R&D, training, and depreciation cost; S= total sales; TA=total assets; DON=donation cost in period t; AD=advertising cost in period t; RD=ordinary R&D cost in period t; T=training cost in period t; * = p < 0.1; ** = p < 0.05; *** = p < 0.01.

4.2.4 Time Lag Value Relevance of Donation Expenses

For further evidence of the value relevance of donation expenses, this paper performs time lag regressions on operating income with annual donation costs. Table 5 shows that donation costs have significant effects on operating income that last for two to 12 years. On the whole, donation costs from two to five years ago influence current operating income positively, while donations given more than six years ago have negative effects on operating income in the current year.

These results support the research hypothesis (H2: Donation expenses have a time lag effect on firms' future value). This indicates that donation cost can create future cash flows, and it may be possible to capitalize donation cost in firm listed in the Korean stock markets.

This result shows donation costs have long-term value relevance, and the empirical evidence on the long-term value relevance of donation activities provides the possibility of change in the accounting treatment of donation cost in Korea.

Table 5. Time lag value-relevance of donation expenses

Research model 2: $\frac{OI}{S} = a_0 + a_1(\frac{TA}{S})_{i,t-k-1} + a_2(\frac{AD}{S})_{i,t-k} + a_3(\frac{RD}{S})_{i,t-k} + a_4(\frac{TR}{S})_{i,t-k} + a_5(\frac{DON}{S})_{i,t-k} + \varepsilon$

| Variable/Year | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intercept | 0.04463*** | 0.05194*** | 0.05709*** | 0.08165*** | 0.12544*** | 0.06968*** | 0.07087*** | 0.07935*** | 0.17617*** | 0.081*** | 0.29134*** | 0.14407*** | 0.13601*** | 0.20635*** |
| TA/S | 0.00523*** | 0.00094 | -0.0003 | -0.0034 | -0.0394*** | -0.0033*** | -0.0133*** | -0.0051** | -0.1029*** | -0.0184*** | -0.2496*** | -0.0662*** | -0.0772*** | -0.1528*** |
| RD/S | -0.1476** | 0.26072 | 0.40911*** | 0.00191 | 0.26159*** | 0.41327*** | 0.78255*** | -0.162** | -0.7148*** | 0.25892*** | -0.8576*** | -0.6736*** | -0.2563*** | -0.4195*** |
| AD/S | 1.97686 | 1.15719** | 0.5305 | 0.9717 | 2.70728** | 2.1539 | -6.8975 | 1.99483** | 1.24642 | 0.50357 | 5.09931** | 1.81484*** | 2.44378*** | 5.42636*** |
| TR/S | 19.2879 | -2.9941 | 5.83882 | 4.87286 | 4.31286 | 10.0098** | 21.6157*** | 20.2911*** | 33.5129*** | 17.838*** | 10.0086 | 2.79031 | 6.76814*** | 14.435*** |
| DON/S 2014 | 6.08153*** | | | | | | | | | | | | | |
| DON/S 2013 | -0.3474 | 1.34063 | | | | | | | | | | | | |
| DON/S 2012 | -0.7997 | 1.03644 | 1.17413 | | | | | | | | | | | |
| DON/S 2011 | -0.9966 | -7.1696*** | -1.5373 | -1.1161 | | | | | | | | | | |
| DON/S 2010 | -0.7807 | 4.3491** | 2.94085 | 0.39555 | 3.97839** | | | | | | | | | |
| DON/S 2009 | 1.12845 | -0.9169 | 1.44939 | 2.77982*** | 3.16439*** | 3.5557*** | | | | | | | | |
| DON/S 2008 | 2.73122** | 3.68958*** | 2.41397** | 2.66131*** | 3.44985*** | 3.21673*** | 1.0442 | | | | | | | |
| DON/S 2007 | 4.43213** | 0.68846 | 3.27163*** | 2.37293** | 2.3492** | 2.6678*** | -4.7736*** | 2.43165 | | | | | | |
| DON/S 2006 | -0.2721 | 0.1843 | 0.33492 | 1.25405 | 2.18894 | 1.65876 | 1.88996 | 3.03865 | 5.92221*** | | | | | |
| DON/S 2005 | -0.8404 | 4.51564 | -0.7339 | 1.64315 | -1.2866 | 0.32784 | 8.90281*** | 1.08042 | 8.44449*** | 5.96625*** | | | | |
| DON/S 2004 | 0.04088 | 1.17822 | -0.7364 | -3.1948** | 0.14032 | -2.4494 | -0.986 | 1.97422 | -5.586*** | 1.44 | 12.3014*** | | | |
| DON/S 2003 | 1.19796 | -0.5399 | 0.17028 | 0.81937 | -1.6177** | -2.6245 | -1.6899 | -3.0603*** | 0.96548 | 1.30347 | -1.1541 | 7.03049*** | | |
| DON/S 2002 | -0.035** | -0.0137 | -0.0035 | -0.0291** | 0.0481** | 4.69022*** | 0.02731 | 0.07292** | -0.0273 | -0.0367 | 9.49098*** | 6.87583*** | 10.7777*** | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DON/S 2001 | 0.219 | 0.26089 | 0.1786 | 0.32188 | 1.28038*** | 0.11308 | 0.39485 | 0.07982 | 1.02696*** | 0.66602*** | 2.0468*** | 0.84919*** | -0.0291 | -12.195*** |
| DON/S 2000 | 0.15828 | 0.08778 | 1.82822 | 1.27152 | 1.22241 | 0.51429 | -0.4274 | 1.11036 | 2.85272** | 1.68756 | 4.95214*** | 1.85086 | 2.08469 | 7.88334*** |
| F Value | 4.1 | 3.42 | 4.85 | 13.23 | 74.76 | 19.03 | 13.43 | 6.51 | 176.22 | 11.61 | 2008.09 | 89.12 | 87.24 | 979.08 |
| Adj R-Sq | 0.0342 | 0.0256 | 0.0377 | 0.1047 | 0.4001 | 0.133 | 0.0885 | 0.0384 | 0.5364 | 0.0605 | 0.9163 | 0.2987 | 0.2672 | 0.7791 |
| Number of Observations Used | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 | 1,679 |

*Note.* OI=operating income before deducting advertising, ordinary R&D, training, and depreciation cost; S=total sales; TA=total assets; DON=donation cost in period t; AD=advertising cost in period t; RD=ordinary R&D cost in period t; TR=training cost in period t; * = $p < 0.1$; ** = $p < 0.05$; *** = $p < 0.01$.

## 5. Summary and Conclusions

The purpose of this paper is to test the time lag value relevance of donation expenses as proxies for CSR activities on firm value over the period of 2000–2014 in firm listed on the Korean stock markets. The paper mainly focuses on the time lag value relevance of donation cost to reveal whether donation cost should be capitalized or expensed.

The results of this paper support both research hypotheses 1 (donation expenses have an effect on firm value) and 2 (donation expenses have a time lag effect on firms' future value).

Specifically, donation cost is significantly associated with operating income, and this association continues for two to 12 years. Considering the results of this paper, it may be concluded that there is significant support to show that firms with strong donation activities create more operating income than those companies with weaker donation costs. The empirical findings of this paper suggest that donation expenses have potential ability to create future cash flows in firms listed on the Korean stock markets.

This paper may contribute to the accounting literature on the value relevance of CSR; the implications of this paper are twofold. First, this study provides empirical evidence that corporate donation activities are significantly associated with enterprise value in the Korean financial markets. This result verifies that Korean investors take CSR activities into consideration when they invest in Korean companies. Second, this study shows that business donation activities have value relevance for a long period. The empirical evidence on the long-term value relevance of donation expenses suggests there should be debate on whether the accounting treatment of donations should be changed in Korean accounting practices. However this study does not cover financial data of developed countries, so the implication of this study should be limited to firms listed in the Korean financial markets.

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**Note**

Note 1. This paper deletes outliers in the sample data with Cook's distance higher than 0.5 and absolute value of student residuals higher than 2.

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# Student Participation in the Governing Bodies of Spanish Universities

Mercedes Llorent-Vaquero[1]

[1] Faculty of Sciences of Education, University of Seville, Seville, Spain

Correspondence: Mercedes Llorent-Vaquero, Dpto. de Didáctica y Organización Educativa. Fac. de CC. de la Educación, Calle Pirotecnia s/n, 41013 Sevilla, Spain. Tel: 349-5542-0601. E-mail: mllorent@us.es

**Abstract**

Spanish universities are making considerable democratic efforts in their various governing and administrative bodies. This article analyses the role that students play in these in aiding the development of a society where democratic values prevail. To achieve this, documentary analysis is used to explore the different laws and statutes of the universities in terms of student participation, as well as the methodology characteristic of Comparative Education. The first phase tackles the problem of student participation in Spanish universities. Following this, student participation in these bodies is analysed, observing differences and similarities taken from a sample of different Spanish universities. Based on the results obtained, student participation does not quite reach the levels desired. Once the problem is identified a series of proposals are made to increase the quantity and quality of this participation, most importantly increasing the relevance of the student sector in governing bodies, expediting and simplifying electoral processes, supporting the right to association by creating space and providing the necessary training for students to make full use of their rights.

**Keywords:** participation, students, university, management, democracy

## 1. Introduction

We are currently immersed in a society in which the "meritocratic" system, where people are valued for their achievements at individual and collective levels, is prevalent. In this respect, the individuals with the highest achievements are sought after in the different professional sectors. Education has always played a fundamental role in encouraging people's quality of life. Authors including Alnaqbi (2016) and Alcántara (2015) hold that the importance of the role of education, especially that of higher education, will increase over the coming years. This increase is observed in three key aspects: social mobility, income level, and political participation. In addition, the possibility of ascending in the social and economic scale largely depends on the possibility of completing higher education. Finally, it is worth highlighting the importance of higher education in strengthening democracy and social participation (Alcántara, 2015).

The current situation of higher education is defined in three major processes: the growing importance of higher education as a factor for development and competitiveness; the growing demand for higher education from the production sector and the population; and the configuration of dynamics for adaptation and change on the part of the universities in response to the challenges of their environment (Valerianovna & Sergeyevna, 2015). The importance of higher education for the economic and social development of developing nations is clear. Thus we highlight the need to launch actions that ensure an improvement in quality (Emmers, Jansen, Petry, Van der Oord & Baeyens, 2016; Malihah, Nurbayani, & Supriyono, 2015).

Therefore, there is no doubt of the key role played by the preparation and training of the students to face the labour market. This is a key aspect in the improvement of quality in higher education and will therefore provide further encouragement to the development and competitiveness of the country in question, as the more highly qualified staff in companies and public administration are usually university graduates (Almeida & Chaves, 2015; Weng, 2014).

In the continued search for educational quality, Spanish universities are being transformed at both national and European levels. There are currently two development plans of note: "University Strategy 2015" (Ministry of Education of the Spanish Government, 2010) which aims to encourage the contribution of universities to Spanish socio-economic progress; and the influential "Bologna Plan" which aims to create a European Higher Education Area (EHEA) adapting and homologating the studies of universities from the European Union (European Space

for Higher Education, 1998). Students play a central and important role in the development of this space (Souto-Otero & Whitworth, 2016; Gago, 2013).

In the pluralist democracies of European Union countries participation, democracy, representation and collegiate bodies are terms that are perfectly assimilated within the different sectors of university communities. In fact, it is in university governing bodies that a clearer illustration of the evolution towards management models more in keeping with the social reality of each country can be found. As freedom and civil participation are stimulated in democratic societies, no institution (public or private) can remain oblivious to these democratic needs.

Thus, alongside teachers and administrative and service staff, students play an important role in the control and management of university centres. With this in mind the necessary mechanisms were created to ensure the participation of the different sectors of the educational community according to their knowledge, experience, concerns, and expectations. The participation of students in universities should be of particular importance as these activities will provide them with the necessary tools for their active integration in society. (Jurado, 2009)

The participation of students in universities is fully legitimated, not just as mere consumers or receivers, but as active members jointly responsible for the institution (Trilla, Jover, Martínez, & Romaña, 2011). Therefore, the involvement of students in governing and administrative bodies ought to be an explicit and visible aim in these universities as the decisions made directly affect this collective, and also because it is a direct way of recognising the educational importance and the effectiveness of these participatory processes among students (Soler, Pallisera, Planas, Fullana, & Vilá, 2012).

From the perspective of university students, the need for student participation and the benefits provided are highlighted. Students note the possibility they are offered in terms of accumulating social capital to set them apart from the rest of students. In general it can be said that students mostly decide to take part in the management and governing bodies of the universities because of their interest in accessing and spreading information; in being in contact with the higher echelons of university policies; and in achieving university learning as well as being able to take part in a collective transformation project (Boni, Lozano, & Walker, 2010).

At present, under the recent Bologna Plan, the Student Statute has been promoted in Spanish universities as part of an internal university democratisation process. Measures are being taken for students and the remaining agents in the educational process to take part in the decision-making process, assuming responsibility for their own education and the management of their own educational level, something essential to achieving the highly desired comprehensive education of the student (Universidad de Oviedo, 2010).

## 2. Method

The aim of our research is to contribute to the development of a fairer society where democratic values predominate. To do so the following objectives were drawn up:

- Outlining the problems of student participation in governing and administrative bodies of Spanish universities.
- Studying the current situation as regards student participation in Spanish universities.
- Identifying differences and similarities between the different Spanish universities according to student participation in governing and administrative bodies.
- Drawing up proposals to improve participation in governing bodies.

We thus aim to generate increasing awareness of student participation in the organisation and function of governing bodies, related problems and possible lines for improvement. To do so we use documentary analysis to explore the different university laws and statutes as regards student participation, as well as examining the Comparative Education methodology phases proposed by García (1996) and Llorent-Bedmar (2002).

## 3. Results

### 3.1 The Problem of Student Participation

Firstly, we believe it is necessary to clarify the term "participation". On a civic level, participation can become a tool for development, empowerment, and social equity, and so must be meaningful and authentic, involving all agents and developing in different fields and aspects (Lüscher-Mamashela, 2013).

This recognition of the usefulness of participation can be translated to universities, where the intervention of different members of the university community is hailed as an essential aspect of their development and function. Universities require students to participate as active users as they provide a different vision from that of the remaining university sectors (Merhi, 2011).

In addition, in the UNESCO Universal Declaration (1998), university heads and politicians called for students to be represented as a key part of universities and placed on the central axis of their lines of action. In this respect we can state, in keeping with Michavila & Parejo (2008), that as long as students have the right to be organised and represented their participation in these matters will be guaranteed. Moreover, the Bologna framework highlights the need to encourage student involvement at all decision-making levels, legally guaranteeing the means for student participation, and the need to ensure that this participation is active (Michavila & Parejo, 2008).

Following this brief outline we consider it essential to ascertain the information available to Spanish university students concerning possible interest and participation in universities. The study by Soler, Vilá, Fullana, Planas & Pallisera (2011) on the information available to students concerning their representatives at the University of Girona includes relatively high percentages relating to lack of information on the main governing and administrative bodies of the university. Another factor relating to poor participation from students in these bodies was the shortage of time to dedicate to this type of activity, as highlighted in the study.

As regards the significance acquired by student representation in governing bodies, Bergan (2003), Head of the Division for Higher Education and Research of the Council of Europe (COE), states that a survey on student participation in governing bodies of universities in different countries highlighted the limitation of the right to vote of students in matters considered to be of immediate concern to them. Thus they are not allowed to vote in matters referring to personnel, administrative and financial issues, curricula or the awarding of doctorates. There are therefore two ways to interpret these different rights to vote: they can be distinguished depending on the interests of students according to the subject, or the distinction can be made depending on skills. In either case it is difficult to comprehend why students should not vote on financial matters or whether the argument is due to real competences or is simply a formal argument to limit the right to vote.

In fact, the reality is that despite efforts from the university sector to incorporate the debate on student participation into its usual operation, the presence of students in administrative bodies is symbolic and at times non-existent. Even within the reform process of the Bologna Plan one of the greatest weaknesses is student participation, as reported by the European Students' Union (ESU), which notes the absence of regulations to promote participation, and the lack of economic and human resources for student unions (Soler et al., 2011).

Equally, in agreement with Lüsher-Mamashela (2013) as regards the motives for student participation in the government of universities, it is worth noting those relating to their own interests as students can be considered consumers of the services provided by the university, meaning that these interests can be only temporary.

Finally, and in keeping with Jover, López & Quiroga (2011), we can state that there is a contrast between the stance maintained by students who complain of a lack of infrastructures to facilitate their participation, and that of other sectors of the university community who highlight the lack of student interest in taking an active part in governing bodies, starting with their minimal involvement in the election process for student representatives. In this respect there are numerous statutes where the functions to be met by students reflect commitment to an active and responsible presence in the university, and specifically active and responsible participation in meetings of the collegiate bodies to which they have been elected, in addition to contributing to the aims and running of the university.

*3.2 Governing Bodies in Spanish Universities*

Below we give an overall description of Spanish single members and collegiate governing bodies, after which we will reflect the percentage of student participation found within the different governing bodies of Spanish universities.

Developing Article 27, specifically section 10, and Title Eight of the Spanish Constitution (1978), the Law for University Reform (L.R.U.) is presented as a legal framework for current university studies. This law details a new distribution of university teaching competences between the State, the Autonomous Communities and the Universities themselves, achieving some degree of democratisation of control and management of Spanish universities.

The central idea of the L.R.U. is that the University does not exclusively belong to any of the sectors that make up the educational community but rather constitutes a true public service relating to national and regional interests. The different collegiate bodies that appear in all Spanish universities (España, 1983) were created in response to this.

The research carried out suggests that Spanish universities follow a fairly uniform pattern of government and organisation, and are ruled by single members and collegiate bodies. The single members are:

- Rector, maximum authority and representative of the university, elected by the University Faculty from the professors who belong to it.
- Vice-rectors coordinate and direct specific sectors of university activity and are appointed by the rector.
- General Secretary, also appointed by the rector, attester to the agreements established by the university governing bodies.
- Financial manager, in charge of the economic and administrative services of the university, and also appointed by the rector.

In addition, the collegiate bodies in charge of the government and organisation within the university are made up of:

- Social Council: body for social participation, made up of representatives from the Governing Board, including teachers, students, and administrative and service staff, as well as representing "social interests" in agreement with current legislation.
- University Faculty: representing the University Community, top academic authority body. Made up of the rector and representative teachers, students, and administrative and service staff.
- Governing Board: in charge of executing the guidelines established by the University Faculty. Made up of the rector, vice-rectors, general secretary, financial manager and representatives from each of the sectors concerned: teachers, students, and administrative and service staff.
- Department Council: decision-making and representative body of the university departments. Made up of all the teachers of the department, a student representative, and another representative for administrative and service staff.
- Board of the School: representative of the university community in each of the university centres. Made up of the dean, vice-deans, secretary, heads of department and representatives of teaching staff, students, and administrative and service staff.
- Institute Council: representative body of the University Institute, made up of the director, teaching staff associated to the centre, research fellows, and administrative and service staff of the institute.

Below we include a comparison table based on official data for student participation in collegiate governing bodies of different Spanish universities (University of Salamanca, 2011; University of Oviedo, 2010; Autonomous University of Madrid, 2009; University of Seville, 2008; University of Cádiz, 2007; University of Valencia, 2006; University of Murcia, 2004; University of León, 2003).

Table 1. Student participation in Collegiate Bodies of Spanish Universities

| | Social Council | University Faculty | Governing Board | Department Council | Board of the School | Institute Council |
|---|---|---|---|---|---|---|
| Autonomous University of Madrid | 6 members of the university community, of whom 1 is a student (17%) | 303 members, of whom 81 are students (27%) | 56 members, of whom 6 are students (11%) | 25% students | 27% students | 25% students |
| Cádiz | 6 members, of whom 1 is a student (17%) | 303 members, of whom 84 are students (28%) | 56 members, of whom 5 are students (9%) | 28% of members are students, and 1/5 students must be from the third cycle | The Faculty Delegate as ex-officio member and 28% of students | 3 doctoral students out of 5 members (60%) |
| León | 6 members, of whom 1 is a student (17%) | Represented by 25% students of whom 2% must be in the third cycle. | 56 members of whom 5 are students (9%) | 20% students | 25% students | The number of research students or third cycle students is not specified |
| Murcia | 20 members, of whom 1 is a student (5%) | 75 students out of 300 representatives (25%) | 6 students out of 50 members (12%) | 30% students | 30% students | The number of students is not specified |

| Oviedo | 25 members of whom 1 is a student (4%) | 303 members, of whom 75 are students (25%) | 5 students out of 53 members (9%) | 10% students | 30% students | Composition is not specified |
| --- | --- | --- | --- | --- | --- | --- |
| Salamanca | 31 members of whom 1 is a student (3%) | 300 members, of whom 80 are students (26%) | 6 students out of 52 members (11%) | 25% students | 25% students | 10% doctoral and post-graduate students |
| Seville | 6 members, of whom 1 is a student (17%) | 300 members, of whom 93 are students (31%) | 34 members of the educational community, of whom 11 are students (32%) | 30% students from first and second cycle. One student from third cycle | 30% students from first and second cycle | 30% students from first and second cycle. One student from third cycle |
| Valencia | 26 members of whom 1 is a student (3%) | 300 members of whom 75 are students (25%) | 55 members of whom 5 are students (9%) | Students total half the number of scientific and research staff | 30% students | Students total half the number of scientific and research staff |

The previous table shows the differences in student participation in governing and administrative bodies according to the statutes of the different universities. In this respect we observe how in the composition of the Social Council there are two groups of participation percentages: universities such as the Autonomous University of Madrid, or the Universities of Cádiz, León and Seville, with 17% student participation; and the universities of Murcia, Oviedo, Salamanca and Valencia, with percentages around 3%-5%.

In contrast, in the case of the University Faculty the percentage of students is similar in most of the universities, mostly 25% and 28% with the exception of the University of Seville, where the percentage is higher (31%). Equally, in the Governing Board we can observe the same situation, with parity between the participation percentages, as they range from 9% to 12%, except in the University of Seville, where the percentage increases to 32%.

As regards the Department Council, there is a wider variety with participation percentages ranging from 10% to 30%, and with the University of Oviedo showing the lowest percentage. In the Board of the School we observe similar participation percentages in the different universities ranging from 25% to 30%. Finally, as regards the Institute Council, data collection was more difficult since the student participation of this government body is not featured in the statutes. However, we can state that there is disparity in the participation percentages, comparing for instance the 60% contemplated by the University of Cadiz to the 10% contemplated in the University of Salamanca.

In general, as regards governing bodies we find lower student participation percentages in the Social Council and Governing Board, with the latter showing the lowest percentage. In contrast, higher participation percentages are found in the University Faculty, Department Council, Board of the School and Institute Council, especially the Board of the School, which has the highest percentage.

## 4. Discussion

In conclusion, it can be stated that the participation of all the major governing groups within the university provides benefits and particularly an improvement in the quality of the decisions aiding the progress of the institution. In the case of students the benefits of taking part in decision-making lead to an improved educational potential, which can also be seen as a means to attain the educational objectives of the university.

Based on this we list a series of proposals for improving student participation in the governing bodies of Spanish universities. Firstly, following the analysis carried out on student participation percentages in governing and administrative bodies in Spanish universities our main proposal is to study the role of students in these governing bodies and determine whether representation percentages should be increased or reduced. Observation of different functions of each of the governing and administrative bodies suggests the need for greater or lesser student representation depending on the importance of the actions developed by the relevant government body for the student community. We also list below other proposals for improvement based on the information compiled previously:

- The weight of the student sector within governing and administrative bodies should be the same as the other sectors, awarding it the role it deserves.

- Electoral processes should be expedited and simplified, as students are usually excluded from these processes due to their complexity.

- An increased promotion of information on the electoral process and on the representation, functions and rights of students, given that lack of information is another barrier to the participation of this sector.

- Support of freedom of association through the creation of spaces and the encouragement of situations in which students can create networks relating to student participation in the university.

- Provision of the necessary training for students to fully exercise their right to participation.

- Promotion of student involvement in these processes through increased awareness of the importance and impact on the sector as well motivation strategies relating to participation.

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# The New Battlefield: The Hidden History of U.S Foreign Policy towards Afghanistan

Ali Imran[1] & Dong Xiaochuan[1]

[1] School of History and Culture, Northeast Normal University, 5268 Renmin Street, Changchun, P.R. China

Correspondence: Ali Imran, & Dong Xiaochuan, School of History and Culture, Northeast Normal University, 5268 Renmin Street, Changchun 130024, P.R. China. E-mails: imran@nenu.edu.cn; imranlhr411@gmail.com; dongxch@nenu.edu.cn

## Abstract

The United States foreign policy has been characterized as a long and zigzag history since the beginning of America in the late eighteenth century. This vital study is a part of this long history. During 1979 Soviets invaded Afghanistan and a Soviet-Afghan War was born, American's major influence was to be towards this region and reforms in their foreign policy to expel the Soviets from Afghanistan. It took place between 1979 and 1989 about a decade. This study seeks to answer the following questions: "Which were the U.S key foreign policy in the context of Afghan-Soviet War during 1979 and 1989 under Jimmy Carter and Ronald Reagan Presidencies and how these Administrations provoked hard decisions against Soviet Union and established their own doctrines?" "How the U.S got the Afghan Mujahedeen's confidence and funneled the billions of dollars and global dangerous weapons to them chest through Pakistani ISI to punish the Soviets in Afghanistan?" "How the U.S hidden actor's played the key role in this war?" Results based on U.S recently declassified material regarding this war from 1979-89 and found that soon after the Soviets intervention of Afghanistan, U.S begun hidden supply to Afghan Mujahedeen chest through Pakistani ISI and both the U.S Presidents, Carter and Reagan, took hard decisions including established their doctrines to protect the Persian Gulf Region and its interests. In this game, Zbigniew Brzezinski, Charlie Wilson, William Casey, Howard Hart and Stansfield M Turner played the hidden role and finally expelled out the Soviets from Afghanistan.

**Keywords:** Soviet-Afghan War, U.S policy, Mujahedeen, aid, dangerous weapons

## 1. Introduction

The Soviet Union's occupation of their southern neighbor Afghanistan during the last month in 1979 caught the global attention and instantly became the crucial point of international relations between Americans and Soviet Union. Soon after the Soviets' troops interred into Afghanistan, the American Administration, policy makers including U.S nation rejected the Soviet Red Army's invasion of Afghanistan. As response to Soviets in Afghanistan, the U.S Administration reforms their foreign policy towards Afghanistan to push the Soviets back to their home from Afghanistan.

In doing so, the main purpose of this study is to examine and get the better understanding of the U.S key foreign policy in the context of Afghan-Soviet whole war during 1979-1989 under the Jimmy Carter and Ronald Reagan Presidencies and how these Administrations took the hard decisions and established their doctrines including funneling of billions of dollars and worlds dangerous weapons to Afghan Mujahedeen for playing their key role in this game.

## 2. Washington's Initiating Steps

Once the invasion of Afghanistan occurred, a new and more ominous threat to American interests in the region became clear. When USSR (Soviet Union) forces began the incursion on Afghanistan, policy makers of U.S understood that Moscow's forces were near the Persian Gulf region. According to a commentary in U.S intelligence cited in '*Afghanistan: The Making of U.S Policy, 1973-1990*' which display this inception: 'The prime motivation that drive the USSR's move was to get its basic objectives within reach. Afghanistan's control would be a prime step to assess the dominations over the Asian Sub-Continent and Indian Ocean. (Note 1)

The Zbigniew Brzezinski, National Security Adviser, wrote a memo to President Carter during 1980's and

indicated the U.S interests towards Persian Gulf region and mentioned that we, U.S, should defend its interests in the region (Note 2). Therefore, it was now key objective of U.S to defend the Afghanistan to safe their objective in this region.

Initially, to respond the Soviets in Afghanistan, U.S high ranking officials hold a meeting on March 30, 1979, David Newsom, stated during a meeting of mini-Special Coordination Committee (SCC) that it was America's key policy to respond Soviet's involvement in Afghanistan to protect our interests towards this region, also stop their further steps towards third world countries. On April 6, 1979, SSC thoroughly discuss on number of options regarding covert support to Afghan Mujahedeen. The meeting also considered propaganda game through media about the Soviet's tactics within Afghanistan. The meeting considered the number of options such as indirect financial aid to Afghan Mujahedeen, direct support to anti-Afghan government and anti-Soviet movements, non-lethal aid, arms supply and Mujahedeen training and other assistance. The meeting finally recommended the non-lethal support with active role and ordered to CIA for early coordination with stake holders in Afghan Mujahedeen and put the final paperwork for approval (Gates, 2006, pp. 144-146).

Further, President Carter wrote a memorandum to Soviet leader Brezhnev and affirmed:

> "*We expect that the principle of non-interference will be respected by all parties in the area, including the Soviet Union. No useful purpose is served by false and provocative reports about outside interference – especially when they occur at the same time as increased Soviet activity in Afghanistan. We can only wonder at their intent. We would regard external involvement in Afghanistan's internal problems as a serious matter with the potential of heightening tensions and destabilizing the situation in the entire region* (Hilali, 2005, p. 144)."

On December 15, 1979, Department of State telegram to U.S Embassy in Soviet Union and mentioned that U.S Embassy should ask to Soviet's about their military developments in Afghanistan and also ask to explain the reasons of interference in Afghanistan. The telegram further asked that embassy leader should met with Andrei A Gromyko, Soviet Minister of Foreign Affairs, or any high ranking official of foreign department and inform them that U.S Administration is very concern regarding Afghanistan and under the Soviet-U.S agreement of 1972, Soviet should explain reasons of their forces in Afghanistan so that the misunderstandings between both countries and international tense situation can be controlled. The similar telegram was written to Soviet embassy in U.S for explanation regarding Afghanistan situation. (Note 3)

On December 27, 1979, U.S embassy in Soviet Union replied to State Department through telegram and mentioned the meeting with V.F. Mal'stsev, first duty minister of Soviet Union regarding Soviet's military buildup in Afghanistan. The telegram explains that Mal'stsev met with U.S embassy and conveyed the message from Soviet Union leadership for U.S Government and particularly for President Carter. The Mal'stsev affirmed that as the Afghanistan's political situation gone worst and external interference damaged Afghanistan's internal affairs, so government of Afghanistan requested to Soviet's leadership for their help against the resistance. He further mentioned that Soviet Union and Afghanistan's interests are common towards this region and cemented agreement to protect these interests. Eventually, after deliberately discussion on Afghan request, Soviet leadership sent its troops to Afghanistan to assist the Afghanistan government. The Deputy further affirmed that:

> "*limited*" Soviet forces have gone into Afghanistan at Afghan Government request to repel "*external*" aggression in accordance with Article 51 of the UN Charter. Soviet forces would be withdrawn when the reasons for their being sent no longer exist." (Note 4)

Another telegram was written from State Department to Soviet leadership on December 28, 1979 with titled "*Ramifications of the Soviet Move into Afghanistan*". The U.S President Carter warned to Soviet leadership regarding their military buildup in Afghanistan and said although both nations' interests are common so before doing any such kind of decisions, we should consult with each other. Furthermore, the President indicated that one sided decisions can distrust the other party and can damage USSR-U.S friendship agreement, which was cemented in 1972. Finally, President Carter affirmed that Soviet should withdraw their troops from Afghanistan for continuing the strong relations between both the nations. (Note 5) The Soviet General Secretary Leonid Brezhnev replied through memorandum to U.S President and rejected U.S assessments. The Brezhnev reminded U.S Government that Soviet leadership already explained the actual situation of Afghanistan through U.S Embassy in Soviet Union. He again said, Soviet troops sent to Afghanistan on the request of Afghanistan Government and should be expelled after getting the objectives. The Brezhnev further compelled that "*it is not import that everyone should agree with us about our troops in Afghanistan*". He finally explained that:

> "*The Government of Afghanistan during the course of nearly two years has numerous times turned to us with this request. In point of fact one of these requests was sent to us on 26 December of this year. This is*

*equally known by us and by the Afghanistan and Government which sent us these requests. "I must further clearly state to you that the Soviet military contingents did not take any military action against Afghanistan and we clearly do not intend to do so. "You have reproached us in your message that we did not consult with the USA Government in reference to the Afghani matter before introducing our military contingents into Afghanistan. Permit us to ask you—did you consult with us prior to beginning the massive concentration of naval forces near Iran and in the region of the Persian Gulf, as well as in many other cases, about which it would have been necessary as a minimum to notify us? "There is, of course, no basis for your assertion that our actions in Afghanistan allegedly threaten the peace.* (Note 6)

On December 31, 1979, the President Carter stated, during an interview to *New York Time,* that his policy has now completely changed towards Soviet's intervention of Afghan because Soviet leadership not truly informing the international community about their troops in Afghanistan. (Note 7) After all, the President Carter gave the historical statement during his address to nation and said "*The U.S. will meet its responsibilities*." (Note 8)

## 3. The Blame Game

The President Carter and General Secretary Leonid Brezhnev began direct approaches to each other and criticized each other policies. On December 30, 1979, President Carter hotline message to Brezhnev and showed seriousness about Soviets direct military buildup in Afghanistan without consulting with U.S. The President again reminded the U.S-Soviet friendship agreement which was signed in 1972 and advised to hesitate the direct confrontation between two superpowers. The President further urged that neither a powerful country direct invaded the other country, such an action should be dangerous for international community and breakup of international norms. To continue the productive and strong relationship between our two nations, the President advised, Soviets should back from their actions in Afghanistan. The Carter warned that productive relations should be undermined, if Soviets not go back from Afghanistan. Finally, he said:

> *"I want to insure that you have fully weighed the ramifications of the Soviet actions in Afghanistan, which we regard as a clear threat to the peace. You should understand that these actions could mark a fundamental and long-lasting turning point in our relations. Taken without any previous discussions with us, they constitute in our view a clear violation of the Basic Principles on Relations, which you signed in 1972".* (Note 9)

In response to the President Carter's hotline message, the Brezhnev replied on December 29, 1979, and said:

> "*It is impossible to agree with your evaluation of what is occurring in the Democratic Republic of Afghanistan. We have sent through your Ambassador to Moscow in a confidential manner to the American side and to you personally a clarification based on facts of what is actually occurring there, as well as the reasons which caused us to respond favorably to the request of the Government of Afghanistan for the introduction of limited Soviet military contingents.*" (Note 10)

The Brezhnev further said that it is certainly not important to anyone's agree or disagree with us regarding Afghan situation and Soviet sent their troops after a special request on December 26 by Afghanistan government, as already informed U.S, to repulsing the external hands in Afghan affairs. Finally, the Brezhnev intensively replied on U.S consulting option and said that why Soviet consult with U.S or permit from you. Ever, U.S consult with "us" regarding their naval buildup near Iran borders. (Note 11)

Eventually, these efforts failed and a proxy war begun between U.S and Soviet Union and U.S reforms their hard foreign policies towards this war. Besides, U.S-Soviet Union this war was not a new conflict but had already looped with Vietnam War therefore the conflict of Soviet-Afghanistan was a gigantic chance for U.S to revenge the Soviet Union so that U.S reformed their policies as 'Hurt Them' and did not miss the chance. Also Gulf Oil and revenge to Soviets were the prime objectives for the U.S foreign policies towards this proxy war (Imran & Xiaochuan, 2015). Although the U.S warnings were ignored by Soviet leadership so U.S Administration took hard decisions against the Soviets.

## 4. President Carter's Hard Decisions

The Carter Administration was much worried about the Soviet's influence in Afghanistan. Therefore, soon after the Soviet interred into Afghanistan, the President Carter, Brzezinski, and U.S policy makers decided to supply the financial aid to Afghan Mujahedeen in the form of propaganda operation and medical assistance. The President ordered his team to reform foreign policy towards Afghanistan and began assistance to Soviets-Afghan Government oppositions (Charles, 1993).

On January 1980 during State of Union address, President Carter accepted the Soviet's challenge in Afghanistan and announced the changes in U.S foreign policies. The President declared that any external influence over

Persian Gulf region would be key challenge for U.S and should be considered the threats to U.S interests towards this region. He further added, the Soviets moves towards this region should be considered the same threats to U.S interests, hence, the U.S should repel all these aggressive steps by all means including the U.S military force. (Note 12)

The SALT-II treaty was also under consideration between U.S-Soviet for control the mass weapons but soon after the Soviets military buildup in Afghanistan, the President declared that it is impossible now to continue this treaty and should be delayed. (Note 13) Soon after these initiative decisions, one step forwards, President Carter declared his doctrine to protect the Persian Gulf region.

## 5. The Carter's Doctrine

The President Carter's speech to U.S nation touched number of issues and President finally concluded his speech with the security of Afghan region particularly Persian Gulf Regional Security Framework, which later known as "Carter Doctrine". The President put a wording map during his speech and explained the different incoming challenges due to Soviet presence in Afghanistan; the emerging of oil problems in Western countries supplies from Middle Eastern states; and, the number of changes in developing countries such as Iranian revolution. The Carter then explained in detail all these issues and pointed out the big challenges for U.S, the President then asserted that "the Soviet's presence in Afghanistan emerged as the biggest challenge for U.S in this region. (Note 14) The President Carter also added that Soviet's powerful force is going to destroy the defenseless nation of Afghanistan which can be considers a radical action and can destroy the regional peace. The President then stated:

> "*The vast majority of nations on Earth have condemned this latest Soviet attempt to extend its colonial domination of others and have demanded the immediate withdrawal of Soviet troops. The Muslim world is especially and justifiably outraged by this aggression against an Islamic people. No action of a world power has ever been so quickly and so overwhelmingly condemned. But verbal condemnation is not enough. The Soviet Union must pay a concrete price for their aggression.*" (Note 15)

The international community praised the President's these decisions and soon after his address to nation, the President firmly established his new foreign policy towards Afghan region particularly to expel the Soviets from Afghanistan and protect the Persian Gulf region. In the end of his speech, as answering of a question, the President very clearly and openly stated that "Now U.S position is very clear regarding Afghanistan issue that all external involvement that assault the American interests in Persian Gulf region, should be repelled by U.S through all means including military force. (Note 16) After all, Carter issued his doctrine, in written, as following.

## 6. National Security Council (NSC)-63

The important issues discussed during President's addresses on January 4 and January 23 recorded as National Security Council secret document, which later known as NSC-63. After necessary amendment by Brzezinski, this important document in the form of Presidential Directive-63, presented to Carter and other U.S policy makers on January 15, 1981. (Note 17) Through NSC-63 document, the President ordered, same his Union address, about the security and protection of Gulf region from Soviet's in Afghanistan and the President affirmed that:

> "*An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States. It will be repelled by the use of any means necessary, including military force.*" (Note 18)

Subsequently, the President ordered to strengthen U.S allies in this region to protect the Strait of Hormuz. It is also our key policy to defend the U.S interests around the globe so U.S should meets it responsibilities. Hence, the President affirmed the military components and directed that U.S should takes the number of actions such as; deploy its own troops in the Gulf region with full power to maintain its credibility in the region, military pressure on Soviets and to response their troops in any further movements towards this region; the USSR should pay the diplomatic and economic costs if they influence in the Gulf region; U.S should assist the regional states to deter the Soviet threats to them; Arab-Israeli conflict also be settled to enhance the peace in the region; great relations should be improved with regional states and also approached them to protect the U.S interests in this region. (Note 19)

The President further affirmed that since U.S had developed his security in the Gulf region, it is also important to continue this trend under NSC-63 regarding Persian Gulf Security Framework. The Carter directed to Defense Department to collaborate with State Department and meets its responsibilities to protect the Gulf region. The

Carter also directed that American troops should present in the Gulf region also continue exercises, training and other activities. Regional defense should also be improved through jointly programs, financial assistance and combined training with regional allies. The President also ordered that U.S also allocates full American resources to his NATO, European and Asian allies to protect the Gulf region. (Note 20)



Figure 1. President Jimmy Carter presents his State of the Union Speech to Congress, 1980s
http://www.newsmax.com/FastFeatures/jimmy-carter-state-of-the-union-president/2015/03/22/id/631735/

The President further moves towards the foreign policy components and directed to State Department for carrying out their responsibilities towards Gulf region. He particularly focused on Middle East peace process; developing of greater relations with Pakistani and Turkish Governments; assistance to Arab Peninsula states to counter the Soviet's control over them; developing of alliance with African states such as Somalia, Ethiopia and Djibouti; developing the alliance with Asian and European states to protect the U.S interests towards Persian Gulf, the good relations with these regional states are urgent needs for U.S to stay, overflighting, and better establishment in Persian Gulf region. (Note 21)

After policy components, the President discussed economic issues and directed stake holders to share their responsibilities. He particularly focused on Oil availability on reasonable prices and reduction of dependence on Middle Eastern states; solving the regional problems through West assistance policy; developing the ties with Saudis to improve the regional security; and to ensure economic stability for better security and political stabilities in the region. Finally, the President tasked to the Director of CIA for productive intelligence collaboration with regional intelligences to better reporting and cast to Soviets on the bad decision of Afghanistan. (Note 22)

On the same way, after entered into Presidential office, the President Ronal Reagan reforms his strict foreign policy to counter the communism. The President Regan openly declared the assistance of Afghan Mujahedeen.

## 7. President Reagan's Critical Decisions

The Reagan interred into presidential office with policy to counter the communism and during his initial tenure, the Soviet-Afghan War was at peak. The President Reagan declared the Soviets as "evil empire" due to their communist and rebel policies. (Note 23) Same as the Carter, the Reagan also took the hard steps against Soviets presence in Afghanistan. The President Reagan declared his foreign policy during his Union address, which later known as Reagan Doctrine, and began support very strongly to "freedom fighter" worldwide particularly Afghan freedom fighters against the Soviets troops in Afghanistan. (Note 24)

In the beginning, Reagan denounced the arms control accord and detent policy with Soviet Union and announced that Soviets had used this policy to get their objectives in the globe. He established the strong policy towards Moscow's communism decisions and took number of anti-communist actions in the global issues. One step forward, the President proposed his doctrine and started financial aid to the freedom fighters around the globe including the states under control of Moscow. The Reagan believed that Soviets were going to expand their communism actions so it was important to stop their steps as soon as possible (Reagan, 1990, p. 548). Through these initiating hard decisions, the President sent strong message to Moscow against their communism and expansionism.

The President Reagan also began full intervention in Afghan matter and supplied most powerful arms and financial aid to Afghan Mujahedeen against the Soviets, without concerning about its future. The President authorized to William Casey, the Director of CIA and the biggest anti-communist, for supplying assistance to

Afghan Mujahedeen to punish the Soviet Red Army in Afghanistan. The Muhammad Yousaf, ISI Chief, affirmed in his account that America wants revenge of Vietnam War from Soviets. He added that Casey comments that "bastards should pay through their bleed in Afghanistan and paid the high cost here" **(**Yousaf et al, 1992, p. 79).

The President Reagan further announced that freedom is not a choice; it's a God given opportunity. It was the America's key policy to defend the democratic and free nations. He specifically declared that U.S should stand with our democratic partners and never leaves them alone, including expelling the Soviet's aggression from Afghanistan and other democratic states. Finally the President affirmed that "help of freedom fighters is also U.S own defense". (Note 25)

This was another key turning point for U.S influence in Afghanistan, when Reagan announced to increase the bounty of financial aid for Afghan freedom fighters. The intelligence was also ordered to supply the more aid, arms, satellite maps and other facilities to Mujahedeen against the Soviets troops in Afghanistan. (Note 26) Under U.S assistance policy, Afghan Mujahedeen became the much strong against the Soviet Red Army in Afghanistan.

President Reagan first time publically admitted the support of freedom fighters particularly the help of Afghan Mujahedeen against the Soviet communists and pro-communist Afghan government. (Note 27) Through these hard decisions of supporting of Islamic movements in Afghanistan, Reagan gave hard message to Moscow and other communist nations. The Reagan's straight forward policy against the communism became clear when he stated during T.V interview that, if Afghan Mujahedeen asked to U.S for their support against the Soviet Red Army in Afghanistan, we should support them (Bonosky, 1981, p. 210).

During 1983, the Reagan Administration approved National Security Decision Directive (NSDD)-77 for military and humanitarian support of Afghan freedom fighters. Under this directive, it was also decided to increase the intelligence collaboration with Afghan Mujahedeen, media coverage of Afghan war and counter the anti-U.S propaganda through media and diplomatic ways. (Note 28) The first time Reagan Administration authorized to CIA for provision of satellite opportunities to Afghan freedom fighters so CIA sent the photos of Soviet troops' deployment in Afghanistan, which supported the Mujahedeen for attacking on Soviet installments (Yousaf et al, 1992, p. 93). On the same page, CIA also provided the upgraded communication technology such as radio and wireless sets to Mujahedeen for best communication with each other during attacks on Soviets in Afghanistan (Coll, 2004, pp. 127-128).

In the year of 1984, Reagan addressed to American public on December 26, the day of Soviets invasion of Afghanistan five years ago, and publicized the number of important previous and current issues. The President explained the five years ago history about Soviet Red Army's invasion of Afghanistan and installing of pro-communist government in Afghanistan and the emerging of Afghan Mujahedeen against them. (Note 29) He concluded that the Soviets attempt to control with power but the freedom fighters opposed them and still opposing. The President finally stated that if Mujahedeen hold out against the Soviet Red Army so:

"*The Afghan Freedom Fighters – the mujahideen – remind us daily that the human spirit is resilient and tenacious, and that liberty is not easily stolen from a people determined to defend it. The Afghan people are writing a new chapter in the history of freedom. We Americans salute their magnificent courage.*" (Note 30)



Figure 2. President Ronald Announcing Increasing of Anti-Communist Assistance

http://www.history.com/topics/us-presidents/ronald-reagan/pictures/ronald-reagan/president-reagan-speakin

g-at-brandenburg-gate

The President finally affirmed that Soviet's should pay the high costs until the Afghan freedom fighters should achieve their objectives. (Note 31) Then, during 1985, the Reagan increased their approaches towards Afghan War and re-established the policy to bleed more Soviets in Afghanistan through support of Mujahedeen and get them out from here. To get these goals, number of debates held in State Department, finally, National Security Decision Directive (NSDD)-166, approved by President and Congress and funneled the billions of dollars to Afghan Mujahedeen against Soviets in Afghanistan (Gates, 2006, p. 348). Soon after this, a big decision was also taken by Reagan Administration as provision of more sensitive and sophisticated arms to Afghan Mujahedeen to punish the Soviets in Afghanistan. (Note 32) After all these actions by Reagan Administration and its policy makers, now the American believe was going to change from Moscow's pay to expel them out from Afghanistan (Cogan, 1993, p. 76).

## 8. Washington's Hard Decisions

Along with other actions, the American Administrations also took the more aggressive steps against the Soviet Union and imposed the number of sanctions against them at national and international levels. Both the Carter and Reagan Administration pursued economic war against Moscow and initially banes the number of imports/exports to Soviet Union. The President Carter took the strict actions and considered to ban the agriculture and industrial items to Moscow (Gates, 2006, p. 537).

The Peter Tarnoff, Special Assistant to the Secretary of State and Executive Secretary of the Department of State, wrote a memorandum, *U.S. Soviet Relations and Afghanistan,* to Brzezinski on December 31, 1979 and mentioned the number of initial actions by U.S against the Soviets. The Tornoff affirmed that U.S Administration has decided to take unilateral actions such as withdrawing of SALT-II from Senate; reviewing of arms control agreements; reducing of official and social relations with Soviets; media statements by President about America-Soviet relationship; recall Thomas Watson from Moscow; reducing of Soviet diplomatic officials in U.S; expelling of Moscow's intelligence officials in U.S; criticizing of Moscow on human rights abuses; publicizing of Moscow's actions in Afghanistan; reducing of relations with Karmal regime; canceling of consular review meeting; traveling ban on Soviet NY advance group; visa banning for Moscow's officials to U.S; reducing of Soviet's media staff in U.S; postpone Exchange Agreement Negotiations (EAN) and cancel the American representation in EAN and selected Exchanges; re-consideration on Olympic games; and Harassment. (Note 33)

The Tornoff further mentioned the military, economic, multilateral, and other regional actions such as increasing and alert U.S troops in Gulf region; postponing of business, joint commercial convention and civil aviation negotiations with Moscow; reducing of exporting / importing from Soviet; suspension of fishing trade with Moscow; increasing of broadcasting in Muslim states and particularly in Soviet Union; regularly updating to United Nation (UN) about Soviet actions in Afghanistan; urging other nations to condemn Soviet's actions in Afghanistan; approaching UN for security council resolution; urging to other nations for support of U.S actions against Soviets; approach to Coordinating Committee for Multilateral Export Controls (COCOM) for restraints on Soviet; increasing of economic aid for regional states; approach to Commission on Security and Cooperation in Europe (CSCE), Mutual and Balanced Force Reductions (MBFR), Comprehensive Test Ban (CTB), and chemical weapons (CW) organizations for control of arms sale to Soviet Union; closing of U.S embassy in Afghanistan and urge others to do same; increasing of financial aid for Afghan Mujahedeen; developing of American troops in Gulf region on war basis; increasing of American arms supply to Moscow's periphery; coordination with Romanian, Turkish and Yugoslavian Government for cooperation against Soviets; and finally increasing of political and military relations with Chinese Government for punishing the Soviets in Afghanistan. (Note 34)

A National Security Council (NSC) meeting hold on January 2, 1980, under Brzezinski regarding Soviets actions in Afghanistan and the results of this meeting were sent to Vice President Mondale, Secretary of State Vance, and Secretary of Defense Brown through memorandum. Brzezinski mentioned the number of actions in this memo and said that U.S should take number of actions against the Soviet such as State Department reduced the Soviet diplomatic official in U.S, same as Soviet's reduced the U.S officials in Moscow; to publicize the Moscow's actions in Afghanistan, U.S will stepped up the broadcasting of Voice of America, Radio Liberty and Radio Free Europe; U.S embassy officials in Afghanistan will be reduced to ten; banning of business with Afghan government and stop the assistance to Babrak government; U.S will cancelled the visas of Soviet officials on case-by-case basis; Moscow's media representatives in U.S will be reduced same level as Moscow reduced Americans; shipment of Magneto Hydro Dynamic (MHD) channel will be stopped until further order; and General Exchange Agreement meeting with Moscow will be stopped. (Note 35)

The NSC meeting further recommended the cancelation of Soviet-U.S Agriculture Joint Committee Meeting, Joint Commercial Committee Meeting, Business Facilitation negotiation, Civil Aviation meeting, Health Joint Committee Meeting, Congressional Delegation visit to the Soviet Union; and high profile meetings will be reviewed same as Moscow treat with us; consulting with U.S allies about the participation in Olympic games; Moscow's officials traveling will be control same level of Soviet's treat us; tightening of exporting/importing with Soviet more than U.S partners actions against Soviet; restrictions on fishing trade; circulation with UN and publicizing the Moscow's actions in Afghanistan; letter to Security Council for mentioned the Soviets action in Afghanistan as major agenda and urging to other nations for standing against Soviets in General Assembly; preferring to Chinese in compare to Moscow for exporting; and finally mentioned that U.S should reform the policy of Foreign Assistance Bill and put the restrictions on Soviet Union. (Note 36)

Brzezinski wrote another memo to President Carter on January 9, 1980 and suggested a long-term policy against the Soviet's actions in Afghanistan. He explained that it is important for U.S to respond the Soviets on their actions in Afghanistan so U.S needs to generate the great domestic consent behind the budget and legislative issues. He further distributed the U.S interests in major three zones; Gulf, Western Europe and Far East. U.S already has strong possession in two regions except Gulf region. Hence, we should need to develop the alliance with Gulf countries. (Note 37)

Brzezinski further added that U.S should response to Soviet through regional security, unilateral actions, and multilateral actions. He explained the U.S actions and said that U.S already increased the covert program for Afghan Mujahedeen against the Soviet Red Army in Afghanistan and further will be updated after the recommendations of reviewing committee; military aid for Pakistan has been recommended; deploying of U.S brigade to maintain the effective military power in the Gulf region; cooperation with Saudis to deploy the Airborne Warning and Control System (AWACS) in the region; and consultation with Turkish, Iranian and Indian Governments about the Afghan situation. (Note 38)



Figure 3. President Carter, National Security Adviser Brzezinski, and Secretary of State, Cyrus Vance (U.S Policy Makers during Soviet-Afghan War)
http://bhavanajagat.com/2013/02/24/special-frontier-force-establishment-number-22-the-future-of-us-tibet-relations/

Brzezinski further moves towards the multilateral actions and explained that U.S should consult with his European partners and Chinese Government for their assistance to Afghan Mujahedeen, also refugee's assistance will be increased through Pakistan, also reorganizing the old Berlin Task Force for the security of the Gulf region. U.S will also approach to European states and India to play their positive role in the region and concluded with soon implementation on Carter Doctrine for getting U.S objective towards this region. (Note 39)

One step forward, the Carter Administration also took a hard decision regarding Olympic Games participation in Moscow and telegram on January 20, 1980 to all diplomatic posts and the Embassies in Libya and Pakistan. The State Department conveyed the Presidential message and affirmed that:

*"I am sending the attached letter to the President of the United States Olympic Committee informing him that I cannot support United States participation in the Summer Olympic Games in Moscow, the capital city of a nation whose invading military forces are occupying Afghanistan. I am requesting that the committee work with other National Olympic Committees to seek the transfer or cancellation of the 1980 Moscow Olympic Games unless the Soviet Union withdraws its troops from Afghanistan within the next month. If the Soviets do not withdraw and the Games are not transferred or cancelled, I am asking that the United States*

*Olympic Committee not participate in the Games in Moscow, and, instead, work with other nations to organize alternative Games.*" (Note 40)

The President further advised, according to telegram, to United States Olympic Committee (USOC) to coordinate with other national Olympic Committees and International Olympic Committee for withdrawing of Olympic Games in Moscow until the Soviet troops expelled from Afghanistan. If doing so not possible, then USOC propose for transfer these games any other country. If International Olympic Committee not agreed with USOC proposal, then U.S and its allies will not participate in Moscow Olympic Games and conduct alternative games, in which U.S Government will support them. (Note 41)

**9. Dirty Game**

Along with other critical decisions, U.S also had begun assistance to Soviet oppositions in Afghanistan such as Afghan freedom fighters. More than six months before the Soviet invasion of Afghanistan, U.S Administration and its policy makers had begun supporting to Afghan Mujahedeen in the form of non-lethal supply. As both Carter and Brzezinski observed the Soviets increasing influence in Afghanistan and decided to backing of Afghan freedom fighters. Soon after the Soviets troops' invasion of Afghanistan, the U.S changed their policy from      non-lethal supply to openly assistance and arms to Afghan Mujahedeen against the Soviet troops and pro-Soviet Afghan government. U.S alliance with Saudis and Pakistani Administrations for supplying to Mujahedeen and CIA played the key role in the field (Gates, 2006, p. 149).

In the first months of 1979, the CIA requested State Department for hidden aid to Afghan Mujahedeen against the Soviets, soon after the insurgency emerging in Heart (province of Afghanistan). This proposal further sent to SCC and President Carter for approval. The proposal also reported that Moscow-controlled Afghan media had begun propaganda against U.S, Pakistan and its other allies regarding supporting of Afghan Mujahedeen, in fact, it is wrong. But it is good time, the proposal further urged, to supply the Soviet oppositions (Ibid, p. 144). On March 6, 1979, Carter's decision making body asked again to CIA for new proposal for supply to Afghan Mujahedeen (Coll, 2004, pp. 4-5). Brzezinski recommended that Carter endorsed non-military assistance to Soviet oppositions because no more opportunities for U.S to punish the Soviets in Afghanistan. Brzezinski urged to SCC for approval of CIA's proposal for non-lethal supply to Afghan Mujahedeen (Ibid, p. 46). Eventually, on July 3, 1979, President Carter signed the first finding for the covert support of Afghan freedom fighters. The finding authorized to supply the cash, establishing the radio access, and other non-military items chest through third world states to Afghan Mujahedeen. Initially, the amount was just five million dollars which was very small amount and drawn within one month (Gates, 2006, p. 146). In the last days of July, 1979, the Carter Administration dramatically increased the covert program and authorized the arms supply to Afghan insurgents. On July 23, 1979, the Carter was briefed Afghan Mujahedeen depending on Pakistani Government and they need more and more arms supply (Ibid, pp. 148-149).



Figure 4. Mujahedeen with U.S provided communication receiver
https://upload.wikimedia.org/wikipedia/commons/a/ad/Muja_on_radio_in_Munda_Dir.jpg

During 1981, Casey began support to Afghan covert program. In the first month of 1982, CIA telegram to Casey for more supply to Afghan Mujahedeen for more pressure on Soviets in Afghanistan. Hence, on February 26, 1982, Casey and Frank Carlucci, Deputy Director of Central Intelligence, decided to funnel an additional 20 million dollars for Afghan Mujahedeen. In the last months of 1982, the Afghan covert program reached 60 million dollars per year (Ibid, p. 251). With the more efforts of Casey for pump up the Afghan covert program, Congress authorized additional ten million dollars from Pentagon's massive treasury account, which never used before. Even various Congress members were not agreed with in option but Casey got his objective (Coll, 2004,

pp. 101-102). The American policy makers believed that CIA's policy towards covert assistance to Afghan Mujahedeen was critical step for bleeding of Soviets and pro-Soviet Afghans. They began more supply in the form of anti-aircraft arms to Soviet oppositions (Gates, 2006, p. 320).

A number of conservative Congress members were not agreed with government for over support to Afghan Mujahedeen including the John McMahon, the CIA's Deputy Director, who warned U.S Administration that over supply for Afghan cause can harm for Pakistan or U.S own interests in the region including emerging of corruption in stake holders. But everyone in Congress was pushing for more support. (Note 42) Hence, U.S policy makers were agreed to supply more and more to Afghan freedom fighters to the last Afghan. They decided to supply them more but not over as explained Democratic Congressmen Charlie Wilson; "*It would be indefensible to provide the freedom fighters with only enough aid to fight and die, but not enough to advance the cause of freedom* (Coll, 2004, pp. 91-92 & 599)*."*

Most of U.S decision makers believed that they were going right way. Fascell Congressman, the Chairman of the CSCE Commission, put the details of Afghan covert operations in front of committee during a conference. Wilson appreciated the $40 million, which were allocated for Afghan cause and $17 million, out of them, especial for buying the anti-aircraft for Afghan Mujahedeen. He further explained that *"This is the only place in the world where the forces of freedom are actually fighting and killing the Russians* (Crile, 2003, pp. 204-209 & pp. 214-215)*."*

Now the Casey deeply involved in this game day-by-day, during the first month of 1984, Casey briefed President and cabinet about the Mujahedeen's achievements in Afghanistan. He explained that after supplying the Lee Enfield rifles to Afghan Mujahedeen through ISI, more than seventeen thousand Soviets have been killed in Afghanistan and this amount was supplied by CIA and GID (Saudi Arabian Intelligence). He further added that this operation would be costly for Soviets ever seen (Coll, 2004, p. 89).

Gates mentioned in his book, *From the Shadows*, that Casey convinced his team for more aid to Afghan Mujahedeen, hence, in the end of 1984, U.S Administration planned to funnel the more assistance to Afghan Mujahedeen for punishing the Soviets in Afghanistan. To increase the more funding for Afghan cause, the Casey travelled to Middle East states and commitment with Saudi Arabia for increasing the covert support $75 million for 1984 and $100 million dollars for 1985. Under this agreement, U.S also increased their part of contribution in sum of $50 million during 1984. Casey also proposed Saudis as $250 million for next year for more pressure on Soviet Red Army in Afghanistan. Later Casey message to Saudis and Pakistani Governments that U.S is going to issue the $250 million in FY 1985 and releasing $175 million on immediate basis. Eventually, Reagan Administration issued $300 million for 1985 (Gates, 2006, pp. 320-321). In sum, President Reagan dramatically changed U.S foreign policy towards Afghan cause during 1984 with determined that U.S should win this war now. He increased the Afghan Mujahedeen's support several time over as compare previous years under the Presidential Directive. Casey and Wilson were the main character to done this job and CIA and ISI played the key role as bridge. There were also initiating retaliations by Soviet Air force bombing across the Pakistani border (Ibid, pp. 319-320).

In the FY 1986, Reagan Administration issued $470 million for the support of Afghan Mujahedeen and this amount reached up to $630 million in the mid of 1987, not counting the Saudis share. Now Afghan jihad was swimming in dollars and CIA began direct contacts with Afghan Mujahedeen commanders without the involvement of ISI. The CIA offered payroll money direct to commander for collaboration with CIA and improving the war tactics. CIA offered packages such as, a regional commander can receive more than $2000, more influence can receive more than $50000 and provincial commander can earn more than $100000 per month (Coll, 2004, pp. 148-151). By the end of 1987, the U.S funneled more than $700 million in the form of military aid and Pakistan was at key allies who received more money out of this package. (Note 43) U.S not only funneled the billions of dollars but also supplied the world's dangerous weapons to Afghan freedom fighters.

## 10. The Wonder Weapons

U.S Administrations and its policy makers also took critical decisions as provision of dangerous weapons to Afghan Mujahedeen to punish the Soviet forces in Afghanistan and CIA done this job chest through ISI. In the begging of war, no any American believe that Soviets troops can expelled by little movements of Mujahedeen. Same as other hard decisions, Carter Administration decided to supply the arms shipments to Afghan Mujahedeen, hence, in the last months of 1979, Carter signed a proposal for provision of arms to Afghan freedom fighters and Reagan re-authorized in 1981 (Gates, 2006, p. 58). On the same time, CIA's logistical officer purchased thousands of Lee Enfield 303 Soviet made rifles and rocket launchers from Indian, Greece, Chinese and Egyptian Governments and further shipped them to Pakistani ISI for handing over to Afghan

Mujahedeen. The numbers of stake holders in Washington were now going to more and more involve in Afghan cause (Ibid). Steve Coll affirmed in his account "*Ghost Wars*" that sniper rifles showed the big results in Soviet-Afghan War and were known as "*Buffalo Guns*". He further added that U.S Administration decided to supply these rifles under the idea of Vaughan Forrest, Special Forces enthusiast in U.S. Forrest also wrote a report how using these rifles and killing the Soviets in Afghanistan. Forrest further mentioned that *"It doesn't take a genius to figure out that you need to hit them hard, you need to hit them deep, and you need to hit his heart and brains,"*. During a meeting regarding provision of arms supply to Afghan Mujahedeen, a participant said *"The phrase 'shooting ducks in a barrel' was used        s*(Coll, 2004, pp. 136-137)*."*

After reaching in Pakistan as CIA Chief Station in Islamabad, Howard Hart felt the more requirements of arms for Afghan Mujahedeen then during a meeting in Bangkok in 1981, after giving presentation about Afghan situation, he demanded more effective weapons for Afghan Mujahedeen against the Soviets in Afghanistan. Soon after this, during 1982, he telegram's to CIA headquarter, describing the Soviet's damaging of helicopters, tanks, convey and other equipment. He further explained that Mujahedeen were achieving big achievements with the help of CIA, hence, they needed more and effective arms (Ibid, p. 59).

During the last sitting of Carter Administration's officials between Brzezinski and Stansfield M Turner, Director of the Central Intelligence Agency, regarding Afghan cause, decided to "*over and over*" even CIA was already supplying enough arms and other non-lethal support chest through Pakistani ISI (Gates, 2006, p. 149).

In 1984, soon after the Reagan interred into Presidential office with the major cause of anti-communist, Wilson began pushing more for more and effective arms for Mujahedeen. The anti-communist lobby in Reagan team planned to supply until the last Afghan alive. The Wilson explained to congressional committee during voting regarding Afghan cause that Afghans are ready to fight and die even with stones. He further put a resolution to Congress mentioned that:

"*It would be indefensible to provide the freedom fighters with only enough aid to fight and die, but not enough to advance their cause of freedom* (Coll, 2004, pp. 91-92)."

In the same era of 1984, Wilson pushed to supply additional $50 million for purchasing more sophisticated weapons, Swiss-made Oerlikon anti-aircraft missiles, which can destroy the Soviet Mi-24 helicopters. In 1985, CIA further purchased the Blowpipe anti-aircraft missiles which were assembled by Britain. (Note 44)

To punish Soviets more and more, CIA purchased the variety of arms such as 12.7 mm machine guns, mortars, bicycle bombs, medical kits, 122 mm rocket (these rockets were used by Soviets in WW-II), and some more effective weapons for Afghan Mujahedeen (Crile, 2003, pp. 158-161 & 300-342).But a researcher on Afghan war, Dr- Alex Alexiev, mentioned in his research that the quality of weapons supplied to Afghan Mujahedeen was very poor, even Mujahedeen never win this war with these weapons. He further added that Western not still provided them with modern anti-aircraft missile which can harm the Soviets. (Note 45) In the same era, pressure from Congress and anti-communists grew day-by-day on President Reagan for provision of most effective and upgraded anti-aircraft weapons to Afghan Mujahedeen (Gates, 2006, p. 320). Finally, U.S policy changed from Afghans fight and die, to, fight and win. In 1986, Reagan Government and its policy makers authorized to supply the Stingers to Afghan Mujahedeen. (Note 46)



Figure 5. An Afghan Fighter with U.S Made Stinger Missile, February 1988

http://history.howstuffworks.com/history-vs-myth/who-won-cold-war.htm

The decision was made against the CIA's initial warnings. On first day of Stinger use, the Mujahedeen hit three Soviet aircrafts out of four, soon they were mounted on Soviets and Afghan air power. Later, Soviet pilots began flying high to avoid the Stingers, thus Soviets loss their air power that beneficial for Afghan Mujahedeen. Soon the Stinger's story spread around the Afghan war and every Afghan fighter wants this missile, these were also known as "*magic amulet*" (Gates, 2006, p. 350).

The use of Stinger was very expensive for both the States such as U.S used Stinger for a cost of $70000 and destroyed the $20 million aircraft of Soviets (Crile, 2003, p. 437). The CIA estimated that Mujahedeen hit the Soviet aircraft seven times, out of ten fires and U.S every dollar destroyed Soviets $200 (Ibid). U.S intelligence reported expressed the Soviets damage and affirmed that:

"*Before the Stingers were employed in his area, Soviet helicopters flew wherever they wanted with impunity. They would hover anywhere they desired and fire into villages. Soviet crewmen would chase villagers and shoot them at will. But now when the helicopters approach villages at low altitude, they land quickly to discharge troops.. .Also, the transports that are used to fly up and down the valleys at low altitude now fly so high they can hardly be seen with the naked eye. The guerrillas have found it a little safer to live in their villages because the high-flying planes cannot bomb with the same accuracy as they once did.* (Note 47)

Gates mentioned in his book "*From the Shadows*" that a report was received on January 6, 1987 from U.S senior officer in war region that Afghan freedom fighters were increasingly victorious against the Soviets in Afghan war and they began counter-measures tactics. He added that "*most significant battlefield development during the last six months was the introduction of the Stingers* (Gates, 2006, p. 430)."

All in all, U.S Stingers changed the Afghan war scenario and Mujahedeen were now going to winning the war and Americans were going to achieve their goals towards this region including revenge from Soviets on Vietnam War.

## 11. Conclusion

The work presented in this article provides new knowledge and understanding about U.S foreign policy during Soviet-Afghan War between 1979-89. In doing so, this vital study shed light on Soviets intervention of Afghanistan, which caused American influence with its strong foreign policy towards this region during Soviet-Afghan War 1979-89. It has been found that soon after initial warnings by U.S to Soviet Union about their intervention in Afghanistan, U.S President Jimmy Carter and his policy makers began financial aid, non-lethal and military support including dangerous arms to Afghan Mujahedeen under supervision of CIA chest through Pakistani ISI, which later changed into largest covert operation in CIA history. Carter also publically declared his 'doctrine' that if Soviets not cooperate with U.S and international community regarding Afghanistan matter, U.S would use all available means including military force to expel the Soviets from Afghanistan to protect the Persian Gulf region. The Carter's Administration established strong foreign policy against Soviet communism and led to supply the Afghan Mujahedeen to 'bleed' Soviets until last Afghan and revenge on Vietnam War. However, U.S policy dramatically changed soon after the President Ronald Reagan interred into Presidential office, because of his strict policy towards communism, he called Soviets as 'Evil Empire'. President Reagan also took more aggressive steps against Soviets on their presence in Afghanistan and first time President Reagan openly announced the support of Afghan freedom fighters and approved new directive (NSDD-166) in 1985 to supply the billions of dollars to Afghan freedom fighters for punishing Soviets in Afghanistan. The President Reagan was more interested in this war against communists' invasion of Afghanistan, hence, he reforms the U.S foreign policy and took more aggressive decisions such as U.S banning of grain sale to Moscow, cancellation of participation in Olympic Games, economic warfare and reduced diplomatic relations and number of other hard actions against Soviet Union, also approached to other nations for doing same. In the last years of war, America's policy changed from 'bleed' to 'kill' the Soviets and Reagan Administration supplied Stingers Missiles to Afghan Mujahedeen to punish the Soviets in Afghanistan, which changed the whole war scenario. An important actors and their key roles belonging this war, those were ignored by even researchers, historian, journalists and everyone those written on this topic, Zbigniew Brzezinski, Charlie Wilson, William Casey, Howard Hart and Stansfield M Turner, those were at front line during whole the war. These actors also used their power to influence over U.S foreign policy and led to others for more and more support to Afghan Mujahedeen. U.S also purchased Soviets' made weapons from number of countries and further supplied to Afghan Mujahedeen through CIA and ISI. U.S and Saudi Arabia were key external actors those funneled billions of dollars, world's dangerous arms and training to Afghan freedom fighter's chest through Pakistani ISI and eventually expelled out the Soviets from Afghanistan and took revenge on Vietnam War.

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# Moving towards Home: An Ecofeminist Reading of Suheir Hammad's *Born Palestinian, Born Black*

Hamoud Yahya Ahmed Mohsen[1], Ruzy Suliza Hashim[2] & Zain I.S. Asqalan[2]

[1] Department of English, Faculty of Education, Hodeidah University, Hodeidah, Yemen

[2] School of Language Studies and Linguistics, Faculty of Social Sciences and Humanities, National University of Malaysia, Selangor, Malaysia

Correspondence: Hamoud Yahya Ahmed Mohsen, Department of English, Faculty of Education, Hodeidah University, Hodeidah, Yemen. Tel: 967-73-396-2532. E-mail: hamoodqaleesi@yahoo.com

**Abstract**

This paper explores Suheir Hammad's collection of poetry, *Born Palestinian, Born Black* from the perspective of ecofeminism. The discussion is focused on investigating the representations of Hammad's double consciousness of Palestinianness and blackness and displaying the dual domination of women and nature embedded in the society of the homeland she left behind. The poems reveal that she depicts the two-ness of her consciousness by highlighting the psycho-social tensions she experiences in the two social contexts- the homeland and the current society of exile. Further, the anthology exhibits the sense of alignment between Palestinianness and blackness in her eyes that is manifested through a form of poetic kinship. They provide an understanding into her varied experience that transcends the limits of cultures and gives birth to a new ecofeminist perspective that promotes diversity. By explicating these crossroads imaged in her poetry, we hope to provide some insights into Hammad's endeavors that complement those of recent ecofeminists, thereby setting up a common ground for building a symbiotic and ecofeministic society in which there is no male oppression or human exploitation.

**Keywords:** ecofeminism, women, nature, double consciousness, poetry, Suheir Hammad

## 1. Introduction

Ecofeminism, in general, is a widely literary movement that focuses on studying the intersections between feminism and environmentalism. It was born from a combined view of feminists and ecologists that the oppression of women is directly connected to the exploitation of the natural environment in patriarchal societies. As a term, ecofeminism is used to describe "both the diverse range of women's efforts to save the earth and the transformations of feminism in the West that have resulted from the new view of women and nature" (Diamond & Orenstein 1990: ix). In her book, *Ecofeminist Natures*, Noel Sturgeon (1997:23) defines ecofeminism as "a movement that makes connections between environmentalism and feminism, more precisely, it articulates the theory that ideologies that authorize injustice based on gender, race and class are related to the ideologies that sanction the exploitation and degradation of the environment." Greta Gaard (2001:157) argues that "more than a theory about feminism and environmentalism or women and nature, as the name might imply, ecofeminism approaches and problems of environment degradation and social injustice from the premise that how we treat nature and how we treat each other are inseparably linked." Karen Warren (1997) in her introduction to *Ecofeminism: Women, Culture, Nature* argues that "What makes ecofeminism distinct is its insistence that the nonhuman nature and naturism (i.e. the unjustified domination of nature) are feminist issues. Ecofeminist philosophy extends familiar feminism critiques of socialisms of domination to nature (p.4)".The term "ecofeminism" was coined by the French writer and feminist Francoise d' Eaubonne in 1974 to signify women's potential for bringing about an ecological revolution to ensure human survival on the planet. As Carolyn Merchant (1990: 100) emphasizes, "such an ecological revolution would entail new gender relations between women and men and between humans and nature." Irene Diamond and Gloria Orenstein (1990: ix) in their introduction to *Reweaving the World*: the *Emergence of Ecofeminism* remark that "Ecofeminism is a term that some use to describe both the diverse range of women's efforts to save the Earth and the transformations of feminism in the West that have resulted from the view of women and nature." Furthermore, Marria Mies and Vandana Shiva (1993: 14) in the introduction to their book entitled *Ecofeminism* argue that "ecofeminism is a

bout connectedness and wholeness of theory and practice. It asserts the special strength and integrity of every living thing." Such ecofeminist concerns and ideas get reflected in literature and literary works of many writers worldwide throughout the last four decades. Among these writers is Suheir Hammad.

The poetry of Hammad, the Palestinian American poet, reflects a variety of concerns related to women and nature which focus on culture, conflict and consciousness. *Born Palestinian, Born Black* presents a voice of a young Palestinian woman who is highly conscious of the dilemma of the lost homeland. Not only that, she highlights the racial attitudes of the society she is living in towards black people. As the title of the collection suggests, she draws a map full of dots that we, as readers, can still take pleasure in connecting by describing herself as being Palestinian and black tiling a new ground for human domination of both women and nature as presented in the Palestinian situation. Addressing the parallelism of Palestinianness and blackness is a hint of being highly watchful of the dual domination practised in both her own country of birth and the surrounding American society she is living in. She sees the similarity between the experience of African Americans and that of Palestinians. In other words, her double consciousness is marked by the experience and affiliation with the Palestinian culture, America and her identity as a black African American young woman. Furthermore, she is a poet, faced the loss of her homeland, and now lives in the land of the Statue of Liberty but does not feel that this liberty is accorded to everyone. She shows that her birthright and identity comprises more than two cultures or nations and this blendedness results in not just double consciousness but also multiple consciousness (Bauridle, 2013). Indeed, her poems reveal the roots in a homeland full of tragedies and an exile home dominated by racial discrimination. Further, they mirror intently culture, conflict and consciousness of diasporic Palestinians and, therefore, lend themselves well to the ecofeminist interpretation. Not only has the meaning of being born Palestinian, but also she teaches us what is the meaning of being a black woman. The current study is motivated by this kind of experience that has been mirrored in Hammad's work particularly *Born Palestinian, Born Black* (1996) which is regarded as the masterpiece of her poetry. The aim of this paper, therefore, is to interpret these poems in terms of ecofeminism and provide some insights into her endeavors that complement those of the ecofeminist, thereby setting up the common ground for building a liberated, symbiotic and ecofeministic society.

Hammad is an eminent feminist and award-winning Palestinian American poet who is also known for her political activism. She was born in 1973 in Amman, Jordan. Her parents were Palestinian refugees in Jordan but they migrated to the United States of America when she was five years old. She grew up in Brooklyn in New York City where she was surrounded by a variety of people of different minority groups such as Puerto Ricans, Afro-Americans, Dominicans and Haitians. She describes them as the integral part but frayed communities of the American fabric society. Her first exposure to poetry was made by her mother who introduced her to the Korean poetry as being the most perfect poetry in the world. Like her mother, her father also taught her some Arabic nationalist songs which she later came to realize that they were originally written as poems. She was highly influenced by the Palestinian poets of resistance, particularly the poetry of Mahmoud Darwish. She is inspired by everyone who speaks poignantly about her homeland's plight.

Using ecofeminism as a lens, we hope to interpret some selected poems of Hammad's *Born Palestinian, Born Black* and investigate and highlight the manifestations of her double consciousness which in return reflects the domination of weak nations which is seen analogously as the plight and exploitation of women. We have selected some poems which represent the thirty-four poems of the collection and lend themselves well to the current ecofeminist discussion such as "Dedication", "Taxi", "Scarlet Rain", "May I Take Your Order", "The Necklace", "Children of Stone", " Silence" "Dead Woman" and "Our Mother and Their Lives of Suffer", and "Broken and Beirut." These poems three facets of Hammad's diaporic consciousness: her Palestinian rootedness and perception; her American consciousness of blackness; her pendulumic experience of unhomed from Palestine and being homed in America.

## 2. Literature Review

### 2.1 Literary Context of Ecofeminism

Over the last four decades, ecofeminism has been used as a tool to analyse literary works. It was coined for the first time by the French writer and feminist Françoise d'Eaubonne in 1974 to signify the intersections between women and the natural environment. It was introduced into literary studies as a call upon women to take an ecological responsibility to save the natural environment from devastation all over the universe. Some of the most prominent ecofeminist voices in the literary world are Greta Gaard, Susan Griffin, Alice Walker, Rosemary Radford Ruether, Allen, Warren, Luisah Teish and Andy Smith (Indue, 2013).

Commenting on the function of ecofeminism in literature, Gretchen Legler (1997) points out that the ecofeminist approach plays a stupendous role in the recent debates of literary studies field as it is "providing a vantage point

from which canonical nature literature may be critiqued" (p. 227). She further asserts the importance of such literature as a setting in which the representations of gender, class and race and assumptions about the natural environment can be investigated and interrogated through the lens of ecofeminism. Earlier to Gretchen Legler, Derborah Janson (1996) in her article "In Search of Common Ground: An Ecofeminist Inquiry into Christa Wolf's Work" highlights the continuing relevance of the German writer Christa Wolf's work to ecofeminism by drawing parallels between her work and that of western ecofeminists. She concludes her study affirming that Wolf's work has suggested a strong connection between human health and the natural environment. She also displays that Wolf's efforts complement those of ecofeminists and provides some insights into the ways of establishing an unbiased society whose members are well aware of the interconnected relations between human and nonhuman worlds.

Louise Thomason (2000) presents another argument about the vivacity of ecofeminism as a practical means of analysis in literature. In her work "Women, Nature and Poetic Dwelling: Ecofeminism and the Poetries of Phillis Webb and Judith Wright", Thomason uses ecofeminism as a lens for reading the poetry of Phillis Webb and Judith Wright, highlighting the degradation and exploitation of the natural environment in ration to the domination of women in the human world. Further, Thomason emphasizes on the power of ecofeminism in the context of literature for growing the relations of human and non human entities in constituting the universe.

Cynthia Belmont (2012) in her article "Claiming Queer Space in/as Nature: An Ecofeminist Reading of *Secretary*" advances the scope of the ecofeminist approach to include the various aspects of the interconnection between women and nature as manifested in literary works such as that of *Secretary*. In the conclusion to her study, she remarks that ecofeminism is a useful means in the analysis of literary texts as it helps reflect and validate human concerns towards the natural environment. Likewise, Brandi Christine Clark (2004) applies the ecofeminist approach for interpreting Thomas Hardy's tragic novels and illustrates that Hardy can be regarded as an ecofeminist writer in the sense that his work reveals some insights into the intersections between ecology and ecofeminism. Clark concludes his study remarking that the ecofeminist approach as necessary for developing human-nature relations in the current environmental crisis-ridden world. Matthew Toerey (2004) in the article entitled "William Wordsworth and Leslie Marmon Silko toward an Ecofeminist Future" anticipates some outlines of ecofeminism future in literary studies. Teorey considers that poetry such as that of William Wordsworth and Leslie Marmon Silko can promote the ecofeminist philosophies in the recent decade. Teorey even concludes that "both Wordsworth's and Silko's writing counter patriarchal attitudes and institution by advocating ecofeministic, symbiotic relationships that value harmonious coexistence ,caring cooperation and reciprocal respect among humans and humanity and the natural world. (p. 53)

Barbara Bennett (2005) states that using the ecofeminist concepts in analyzing literary texts seems to be natural, then, because literature is defined as the medium that makes theoretical practical, to transform complex philosophy into concrete experience through the imagination. She argues that

> Since ecofeminism proposes to be a way of life more than a theory, literature seems a natural medium for disseminating its ideas and practices. By evaluating the tenets of ecofeminism within literature, readers can create avenues for discussing leading to practical application of its theories and become more aware of the interconnectedness in life, of cause and effect, and of the importance of taking personal responsibility for the sequences of our action (p. 64).

Furthering the arguments regarding the role ecofeminism in literary context, Shareen Shehab (2010) argues, in her research "An Ecofeminist Reading of Some Selected Poems by Mary Oliver", that ecofeminism, as a modern approach in literature, is rather effective in analyzing poetry. Using it as a lens, she investigates Oliver's deep and constant communion with the natural environment. She also asserts that the combination of ecologists' concern with that of feminists' in literary texts can be played out through the lens of ecofeminism. Recently, Carol. J. Adams and Lori Gruen (2014), in their book *Ecofeminism: Feminist Intersections with Other Aninals and the Earth* demonstrates that the ecofeminist approach and its stress on human care, relations, emotions, affect and comparison have become more relevant than ever today.

Having overviewed briefly some previous studies on ecofeminism in the literary context, it is obvious that ecofeminism as literary lens offers fresh, revitalizing and inspirational scholarship on works that intersect relations between human and the environment. Attempting to investigate such scholarship in the current Palestinian diasporic writing, we intend to apply ecofeminism as a framework for reading some selected poems of *Born Palestinian, Born Black* as a step towards developing an ecofeminist framework for reading Arab diasporic literature.

### 3. Interconnectedness and Double-consciousness

According to Indue (2013) ecofeminism, as a framework for analyzing literary texts, can be viewed as "a concept that attempts to study the exploitation of nature as similar to the exploitation of women and visualizes a new humanism that resists and subverts all political hierarchies, social and economic structures" (p.7). In spite of the wide range of the ecofeminists' conceptions and concerns such as women's rights, nature's exploitation, animals' rights, natural and environmental concerns about water, land, pollution and wildlife problems, we would like first to point out that we will focus on the concepts which are relevant to the current discussion. Therefore, we have chosen for the present study two concepts subsumed under the umbrella term of ecofeminism. These two concepts are interconnectedness and double consciousness because Hammad, as the title of the collection suggests, seems to be deeply rooted in her Palestinianness and highly conscious of the patriarchal attitudes towards blackness in the current society of exile.

The ecofeminists propose the fundamentality of the interconnectedness in the existence of the whole universe. That is, they believe in the interdependence of the world in the sense that what happens in one part or one life or one society will affect the entire community of the world. Further, as Barbara Bennett (2005:63) asserts, "ecofeminists believe that until we change our perspective of community and see it as a system of cooperation for the betterment of all rather than competition for the success of a few, our world will experience an intensification of these serious problems". In their analysis of any literary work, ecofeminists emphasize on exploring how men's domination of women and exploitation of nature are viewed as identical and interrelated. Deborah Janson (2013:116) argues that "common to all varieties of ecofeminism is an awareness of connections between the domination of women and the domination of nature". This is further echoed by Warren (1997: xi) who argues that one of the central tenets of ecofeminism is that "there are important connections between how one treats women, people of color, and the underclass on the one hand and how one treats the nonhuman environment on the other hand" Heather Eaton and Lois Ann Lorentzen (2003: 2) in their introduction to *Ecofeminism and Globalization* emphasize that one of most important concerns of ecofeminism as a theoretical approach is that "women and nature are connected conceptually and symbolically in Euro-western worldviews and these connections are articulated in several ways".

Double consciousness is a concept that was coined by Du Dois to refer to a sense of looking at one's self through the eyes of others. In his book The *Souls of Black Folk*, he defines the concept of double consciousness as

> It is a particular sensation, this double consciousness, this sense of always looking at one's self through the eyes of others, of measuring one's soul by the tape of a world that looks on in amused contempt pity. One ever feels his two-ness, - an American, a Negro: two souls; two thoughts; two unreconciled strivings; two warring ideals in one dark body, whose dogged strength alone keeps it from being torn asunder (p. 9).

Thus, Du Dois views the concept of double consciousness as a vital theoretical lens for understanding the racial divisions existing in societies such as the American society. In the light of these two concepts, our analysis and discussion of some selected poems of *Born Palestinian, Born Black* will be carried out in the following section.

### 4. Analysis and Discussion

To interpret the thirty-four poems of *Born Palestinian, Born Black* is to find a young poet grappling with a range of experiences, concerns and emotions that are illuminating and insightful. However, we will focus our discussion on how Hammad voices her consciousness of Palestinianness and blackness to investigate how she portrays the domination of women and land in an interconnected sense which ultimately makes overt her pendulumic experience between the two social contexts. Based on our reading of the thirty-four poems in the collection, we show that Hammad's experience is woven between Brooklyn in United States-the host land, Ramallah in Palestine- the homeland and sometimes within the two contexts of the homeland and host land throughout the collection. Therefore, Hammad's experience manifests in three major facets throughout the collection as can be discussed briefly in the following subsections of the analysis.

*4.1 Facet 1: Hammad's Palestinian Rootedness and Self-perception*

This facet exposes Hammad's consciousness that has its roots in a land which is in the ever-present moment of her current life and her self-perception as being a displaced young Palestinian woman who has returned to the place of her origin. Yet, she is deeply rooted to it as if they were in a blood relationship. In fact, for a 20-year old daughter of refugees to consider a plight to which she is inextricably linked, without the trauma of primary experience, is to read the poems of a young Palestinian woman struggling to understand her place adrift in what often feels like an uncontrollable current. This state of a limbo can be traced in 12 poems of the collection such as "Dedication", "Blood Stitched Time", "Taxi", "Children of Stones", "Ismi", "Patience", "Scarlet Rain",

"Gaza", "Jabaliya", "Rafah", "Tel elhawa" and "Zeitoun". For instance, in the opening poem of the collection entitled "Dedication", Hammad stares and speaks out her observation of a displaced father:

> Standing on a mountaintop in Jordan
>
> Looking over the vast sea
>
> Saw the land his people had come from
>
> Land of figs and olive trees
>
> What should've been his *phalesteen* (p. 21)

Here is Hammad's sense of being a daughter of a displaced father who is deeply ingrained to his homeland, enthralled by a lost land of natural paradise and longing for Palestinianness that constitutes an unfilled space within them. She seeks to confirm that the dislocated father is the righteous owner of the lost land he is staring at. The tone of the poem in general and these lines in particular is nostalgic. The memory of her father becomes her memory and image of her lost homeland, and she makes a promise:

> She vows she'd return to *phalesteen*
>
> *Ib rohi* (with my life) *ib demi* (with my blood)
>
> I close my eyes
>
> And smell the ripe olives (p. 23)

The lines reveal the sense of obligation and patriotism instilled in the displaced young Hammad, a representative of Palestinian women in exile, who remains connected to her native land. Her "vow to return" is an indicator of the deep restlessness she feels in exile. Her use of Arabic phrases such as "*Ib rohi, ib demi*" and smelling the ripe olives are proof of being deeply rooted to her motherland, Palestine. She is even ready to give her blood and soul to free the captured home. In another poem, "Taxi," she details the kind of oppression against Palestinian women which she indignantly declares:

> In my father's city
>
> There's a baby girl
>
> Whose beautiful brown eyes
>
> (Centuries ago inspired poetry)
>
> Was eaten out by a fat Zionist rat (p. 26)

The baby girl, in these lines, represents the innocent Palestinian young girls victimized in Hammad's place of origin. Her expression "a fat Zionist rat" symbolizes the oppression and aggressiveness practised against the innocent women who are described ironically as being eaten by a rodent that destroys everything that is good. Metaphorically, rats are pests that carry diseases. The ironic tone of the stanza above displays how deeply Hammad's generation of young Palestinian girls are grounded in an oppressive society in the occupied Palestine. The poem "Children of Stone" is a symptom of her interconnected sense of Palestinianness both in terms of human females and nonhuman nature as can be traced in the following lines:

> When did stones
>
> Become the confidants of young girls
>
> Whose clothes and pride
>
> Across the river were hurled (p. 43)

The question in these lines remains an open question to us. However, it is beneficial to highlight her ecofeminist visualization that links between feminism and environmentalism. Depicting the stones as close friends of the Palestinian girls reveal the poet's interconnected sense of the domination of women and nature in the occupied homeland. This kind of experience is detailed further in the poem entitled "Scarlet Rain" when she addresses Palestinian mothers in the form of her *mama* (mother):

> Enough tears *mama*
>
> Enough because your tears
>
> Won't clot any blood
>
> Save these deep brown eyes

> From any more rain
>
> Stop crying *mama*
>
> Let's miss Scarlet
>
> Burn in hell (p. 37)

These lines evoke the sense of her deepest bitterness felt by the Palestinian women. The image of "deep brown eyes" is an example of Hammad's descriptions of the deeper depression of the Palestinian women in society they are living in. Further, she tends to reveal some aspects of the interconnectedness between the domination of women and that of nature in Palestine as can be traced in the following lines of the same poem when she warmly requests mothers:

> Save your tears your
>
> People need them to
>
> Water soil of uprooted olive trees (p.36)

The "tears" symbolize the tyranny against women in the occupied land of Palestine. "Uprooted olive trees" is an indication of the estranged Palestinians. However, the whole image of watering soil of the uprooted olive trees with women's tears represents her interconnected sense of oppression against women and the natural environment that exists in that society which, in return, represents her double consciousness. She furthers her rootedness to the land and her perception of being Palestinian in the poem entitled "Patience" when she depicts herself, as representative of all displaced Palestinians, waiting patiently to the moment of returning to the homeland. She addresses the oppressors and seizers of the land that if they captured the land, they could not deny its ownership from them and it remains Palestinian forever:

> For these flowers & butterflies
>
> These rivers & this soul
>
> Belong to this land
>
> You cannot own them (p. 76)

These lines invoke Hammad's deepest rootedness to the lost land she has never ever seen. The expression "this soul" reveals the sharp sense of her Palestinianness that calls the connection between various aspects of nature in the homeland such as flowers, butterflies, rivers and her inner soul. Furthermore, Hammad attempts to publicize her experience of rootedness and self-perception when she concludes the poem with the declaration that:

> These fields & shadows
>
> This spirit & life
>
> Belong to this land
>
> And you cannot own us
>
> And for you we wait (p. 77).

She remains connected to her motherland which highlights Hammad's psychological being that she does not waver from personal belief of returning home to a free Palestine. The poems show the strength of her conviction, drawn from the environment of her ancestor's homeland.

*4.2 Facet 2: Hammad's American Experience of Blackness*

This facet focuses on what Hammad means when she says she was "born black". For her, blackness is not just an ethnic sign but a political position in relation to a dominant power structure and racial discrimination in the American society she is living in. In her introduction the collection, Hammad provides some meanings the word "black" connotes. However, in the current context of *Born Palestinian, Born Black* Hammad means to evoke her consciousness towards the racial discrimination towards the black in the American society. She addresses the issue of blackness and the oppression of the black both explicitly and implicitly in eleven poems of the collection, namely, " One Stop", " The Necklace", "Ya Baby Ya", " Fly Away", " 99 Cent Lipstick", "Brown Bread hero", " May I Take Your Order", " Bleached and Bleeding", "Delicious", " Open Poem" and " We Spent the Fourth of July in Bed". For example, in the poem entitled "The Necklace" she uses the necklace gifted to her mother a long time ago as a symbol of her consciousness of blackness as can be exposed by the following lines:

> The necklace
>
> Diamonds of South African rock

Piercing shine caught in eyes

Charred bone of *der Yassin's* massacre

Carried memories of my grandfather's

Chocolate and nuts shop (p. 40)

Typically, the gifted necklace symbolizes the estimable connections between the giver and the receiver. It also symbolizes that the giver wants to develop the relationship with the receiver. In this poem, the description of the necklace in the context of Palestinian situation such as *der Yassin* massacre with an African stamp of originality evokes her sense of interconnectedness between women and the natural environment. The necklace is also a symbol of her consciousness of blackness and Palestinianness in the sense that the symbolic meaning of the necklace is the oppression and domination originally practised against the black African Americans but currently it is associated to the Palestinian situation and struggle as represented by *der Yassin* massacre. Therefore, the necklace conveys figuratively her message of double consciousness which regains force in the collection.

The questions of Hammad's consciousness continue to reveal her ecofeminist sense of the oppressed Palestinian women among the American society where they can express loudly their bitterness of the oppression in the country of their origin and double consciousness as in the poem entitled "Silence":

Did he hear the loud strong

Voices of our women

Voices so clear

Songs so sad so beautiful

Strained…. drained

By years of crying (p. 48)

As the title of the poem suggests, she holds a view that women and nature suffer under patriarchal oppression and are treated as silent objects to be subdued, controlled, consumed, tamed and exploited. However, she tries to give a voice to the voiceless people who have been silenced. Similarly, in the poem entitled "May I Take Your Order", she depicts a picture of male oppression against the black women in the American society in a dialogic image as can be traced in the following lines:

He stir fries me w/

Questions like:

Where you from?

*Brooklyn*

I mean originally?

Yeah there is no hidden I'm original recipe

From the region of

Figs lentils & pomegranates (p. 62)

These lines reveal clearly the kind of racial discrimination in the Brooklyn society in which the black are victims of racism. The two questions asked by the victimizer to Hammad "where you from?" and "I mean originally" are symptoms of such a social disease inhabited in the body of the American society. Hammad's answer of being the recipe of the region of figs lentils and pomegranates is an attack of the American racism. She deliberately uses "figs lentils and pomegranates" which are native to the North Africa and the Mediterranean countries to represent the African Americans as well as other minorities living in the American society. What is more important is that Hammad's consciousness seems to be highly affected by these all-too-common dialogic questions in the American society. Consequently, the image of men as dominating and preying on women is obvious in the poem entitled "Delicious" when she questions the motives of American men:

Why it is men

Describe our colors

As edible?

Chocolate skinned

Sweet honey shade

Café au lait delicious

Olive (an acquired taste)

Peaches and cream

Brown sugar

Is it because they are

Always ever so ready

To eat us? (p. 57)

While the effect is to inject humor, the use of nouns to describe black women demeans them. They are seen as objects for gastronomic satisfaction – their value as human beings is diminished when they are merely perceived as edible food. This negative perception of men can have a catastrophic effect on the double-conscious Hammad akin to what Taylor observes (as cited in Bauridl, 2013:16) "the projection of an interior or demeaning image on another can actually distort and oppress, to the extent that the image is internalized".

*4.3 Facet 3: Hammad's Pendulumuic Experience (of Home and Host Lands)*

This facet demonstrates Hammads' two-ness of being black and Palestinian which, in return, reflects her pendulumic experience between the two social contexts of the homeland and the host land, between Brooklyn in United States and Ramallah in Palestine. In other words, she seems to swing between the two social extremes. This pendulumic experience manifests in many poems of the collection such as "Mariposa", " Suicide Watch", " *Argela* Remembrance", "Silence", " Dead Women", " Tabla Tears", " Good Word", " Our Mothers", " Exotic", " Manifest Destiny", and " Broken and Beirut". To illustrate this kind of experience weaved in Hammad's *Born Palestinian, Born Black*, the following lines of the poem entitled "Dead Woman" reveal an insight:

I am a dead woman

Until we inhale our collective breath

Healing our pierced lungs

Refilling our hardened hearts (p. 51)

These lines exhibit Hammad's identity crisis of being a victim of displacement, oppression and social racism in both societies. She belongs to a family of dislocated Palestinians who lost their verdure once they were exiled from their homeland. She describes herself as "a dead woman" to convey the loss of freshness and vibrancy. She inhales the stale air of Brooklyn in the city of New York where she is doubly oppressed for being Palestinian and for being black. The lines also present her louder call for Palestinians to make their own way towards home. In her introduction to the collection, Hammad describes the context of the poems as "none of them are pieces that I could write now, because I'm no longer living those spaces. But they are still real and breathing, because those spaces are within me. The road I've travelled, the land beneath my feet. I make my way home (p.13). However, she, the representative of all alienated young Palestinian women, does not lose her spirit. She validates her spirit and consciousness of Palestinianness and blackness by asserting that the essence of the whole world, human and nonhuman, is one and eternal. In the poem "Our Mother and Their Lives of Suffer", she addresses Palestinian women who suffer the trauma of the homeland like her.

When your land is raped you

Thank God you still have husbands

When your husbands are jailed

You thank God for your sons

When your sons are murdered … execution style

You hide your daughters and

When they are found and jailed

You fast till they return

And pray some more and

When they are as their land raped

You prepare bandages and some

More prayer and when your family

> Loses all faith you
>
> Pray for their souls (p. 66)

Hammad transmits her pendulumic experience to the public as a way of touching theirs. She once declares that "I know every time I read a woman's work that touches me, I am that much stronger and firmer in believing I could make this world better, not just through my writing but through my activism and just by being me. If other people can do that for me then I know I can do that for people" (Hammad, 1996, p. 7). Just as she finds strength and purpose in other people's works, her own articulation gives strength to others in psychological limbo.

Finally, we would like to conclude this discussion asserting that Hammad's *Born Palestinian, Born Black* has revealed the tenets of oppression and racism in the societies of homeland and exile. She suggests rebuilding a camp of interconnectedness and consciousness between human and nonhuman worlds, between women and nature, and between Palestinianness and blackness. Further, in the poem entitled "Broken and Beirut" she expresses her oscillation to the reader:

> I want to go home
>
> Not only to mama and baba here
>
> I want to remember what I've never lived
>
> A home within me (p. 83)

She attempts to draw a guiding map for the displaced Palestinians all over the world to start making their journey home in the indomitable and inspiring spirit of June Jordan's lines of the poem "Moving towards Home":

> I was born a black woman
>
> And now
>
> I am become a Palestinian
>
> Against the relentless laughter of evil
>
> There is less and less living room
>
> And where are my loved ones?
>
> It is time to make our way home.

The expression "I was born a black woman and now I am become a Palestinian" indicates the poet's pendulumic experience as "I am become" means that the speaker is always in the ever-present moment of occurring, of being simultaneously Palestinian and black. Ultimately, Hammad has achieved the broad goal of the collection to take back the negative attitudes associated with blackness and Palestinianness, reclaim them and show that they are positive and they are about continued existence both in the home and host lands.

## 5. Conclusion

In the analysis of the selected poems of *Born Palestinian, Born Black*, we have shown Hammad's two-ness of being Palestinian and black which indicates the psycho-social tensions she experiences in the two social contexts- the homeland and the current society of exile. We also have highlighted three crossroads for her wide-ranging comparison in the African American experience and that of the Palestinians Americans. However, our special focus has been made on her experience and self-perception as merely a black young Palestinian woman- the adjective she nevertheless uses to describe herself in public as well as in poems. She views herself, like other Palestinians in exile, as insider and outsider and this reflects that her identity fluctuates between the cultures and thus results in her double consciousness which , as Du Dois (1993) describes, "a sense of always looking at one's self through the eyes of others in the mirror" (p. 9). Further, it reveals that her varied experience has transcended the limits of cultures and given birth to a new ecofeminist perspective that helps unify diversity. By explicating these intersections made overt in Hammad's poetry, we hope that we have revealed her endeavors that complement those of the ecofeminist, thereby setting up the common ground for building a liberated, symbiotic and ecofeministic society in which there is no male oppression or human exploitation. We also hope that we have provided some insights into the Palestinian diasporic writers' ecofeminist perspective and their renderings of the dilemma of homeland and exile in their writings as a step towards developing an ecofeminist framework for reading Arab diasporic literature.

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# Causal Correlation between Exchange Rate and Stock Index: Evidence from VN-Index

Tri Dinh Nguyen[1], Quang Hung Bui[2] & Tan Thanh Nguyen[2]

[1] School of Business, FPT University, Ho Chi Minh, Vietnam

[2] FPT University, Ho Chi Minh, Vietnam

Correspondence: Tri Dinh Nguyen, School of Business, FPT University, Ho Chi Minh, Vietnam. E-mail: trind@fsb.edu.vn

## Abstract

This paper will examine the causal correlation of exchange rates and stock prices in Vietnam. The data is collected daily from March 1st 2007 to March 1st 2014. The whole sample period is divided into two sub-groups as before the stock market bottom, after stock market bottom and full sample period. Unit root tests are employed for checking the stationary of time series data such as ADF test, PP test and KPSS test. This paper employs the co-integration test and Granger causality test to identify the causal correlation between two variables. The results of paper prove that there is no causal correlation between exchange rate and stock price. It means that the stock price has no effect on exchange rate and vice versa. However, after stock market bottom from February 25th 2009 to March 1st 2014, this research finds that it has a long-run co-movement between these variables by applying the Johansen test.

**Keywords:** causal correlation, co-integration test, exchange rate, Granger causality test, stock price, unit roots, VN-Index

## 1. Introduction

Since the Bretton Woods pact was collapsed during the 1970s, the developed and developing countries have applied the flexible exchange rate policy. The development of the market has led to the opening of capital market. Because of market requirements, many researchers have investigated the correlation between the stock index and the exchange rate. Having a thorough grasp of this linkage, policy makers could manage the market in the better ways by policy decisions. For instance, in case of rising exchange rate have positive impacts on stock price movement, policy makers could send positive signals to stock market and attract investors by lower the value of domestic currency. Moreover, the effect of correlation between exchange rate and stock price can also influence enterprise and government through shares issued. Enterprise can attract large capital if the shares issued at the right time. Government can collect the amount of capital needed to call for investment and construction in infrastructure projects. Besides, this research is useful for investors as well because each small change in stock price and exchange rate will influence each individual property and profit of the company. Knowledge of causal correlation between exchange rate and stock price could help investors find out opportunities to analyze and predict stock market movements better to make their expected return or even abnormal return.

Classical economic theory assumes that the exchange rate and stock price can work with two theories as traditional approach and portfolio approach (Richards & Simpson, 2009; Granger et al., 2000). Traditional approach considers the current account of the economy and portfolio approach identifies as stock-oriented model. Traditional approach postulates that any movements in exchange rates would cause changes in stock prices (Richards & Simpson, 2009). It is constructed on the macroeconomics view because the stock price is usually defined as present values of future cash flow should adjust to the economic perspectives (Stavárek, 2005; Richards & Simpson, 2009). On the other hand, portfolio approach postulates the opposite of traditional approach that the change in stock prices can lead the movement in exchange rates (Richards & Simpson, 2009). According to Ghulam Ali et al. (2013), the demand for exchange rates is increased if rising trend is found in stock prices. Furthermore, according the Huang and Yang (2000), the drop down of stock prices caused the decrease in exchange rates during Asian Crisis period in 1997.

The empirical studies on causal correlation between stock prices and exchange rates have been document by

many researchers. For instance, Kutty (2010) finds that there is a short-run correlation between stock prices and exchange rates in Mexico from 1989 to 2006 by employing ADF, KPSS, Engle, and Granger and VAR model. Particularly, Granger-causality test shows that the stock index leads the exchange rate in the short-term. At the same time, Agrawal et al. (2010), in case of researching correlation between Nifty returns and Indian-US Dollar exchange rate from October 11$^{st}$ 2007 to March 9$^{th}$ 2009, have found that a rise in stock prices will cause a decline in exchange rates. More recently, Brazil, Russia, India, and China (BRIC countries) were tested in the research of Ghulam Ali et al. (2013) for the period from May 5$^{th}$ 2003 to September 6$^{th}$ 2010 by dividing the data into three sub-groups – before, during and after the financial crisis, 2009. As result, applying ADF, PP, KPSS tests and Tado-Yamamoto Causality (Modified WALD) test at different periods, paper shows no correlation during three periods. However, there are also many researches representing that there is no correlation between stock prices and exchange rates in specific market. For example, Zubair (2013), with 241 observations in Nigeria over the period April 2001 – December 2011, shows that there is non-integration between exchange rates and stock prices in this country before and during the global financial crisis.

Obviously, there are different results among different countries in different periods. Due to the typical features in particular economy, Vietnam market may shows the differences. Base on monthly data, Le (2012) and Vo (2013) detect that there is no correlation between exchange rates and stock returns from January 1$^{st}$ 2006 to December 31$^{st}$ 2010 and from from January 2001 to April 2013 respectively. While the former uses Dickey Fuller (1976-1979) to test unit root, the later applies Augmented Dickey Fuller (1981). Both of them have the same second method in employing Johansen and Juselius (1990) for the co-integration test. In addition, Huynh and Nguyen (2013), by using VAR model and Granger-causality test, find a very weak causal correlation from exchange rates to stock prices based on monthly data, which collected from October 2007 to October 2012 in Ho Chi Minh (VN-Index). Moreover, the research of Tu (2013) also discovers that there is a long- run correlation from exchange rates to stock prices based on the result of co-integration test by using Johansen (1991) from September 2007 to July 2013. However, in the short-run, the volatility of exchange rates does not explain the volatility of the stock price index based on the result of Autoregressive Distributed Lag (ARDL) test.

In this article, we also examine the causal correlation between stock prices and exchange rates in Vietnam market. With the conditions that established the stock market traded in 2000 and was involved the World Trade Organization in 2007, Vietnam's economy has grown significantly, promoted the development of trade, investment, liberalization the financial sector, and the most evident is the strongest development of the stock market. The most important achievement when Vietnam has been joined WTO is that the significant increase of investment flows and domestic market. The most important factor, which affects the movement of foreign investment flows into Vietnam, is a stable of exchange rate (Tu, 2013). The movement of foreign investment flows will affect economic growth, thereby affecting the movement of stock price. By focusing on this market, this research will contribute to enhance the limited literature in researching causal correlation between stock prices and exchange rates in Vietnam. In addition, most of studies, which provide empirical evidence in Vietnam market, used monthly data and single model, which is either VAR or VECM to analyze. Therefore, the last result cannot bring absolute accuracy and detail while this research use daily data and both models as well as the updated data to ensure updated circumstances of market.

To evaluate the correlation between the exchange rate and stock index, this paper will estimate the response function with two variables (logarithmic form): the stock price, the exchange rate. Firstly, the paper initially use the Augmented Dickey – Fuller (ADF) (1981), Phillips - Perron (PP) (1988) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) (1992) to test the existence of unit root follow time series stock price and exchange rate. Then, the study applies the method proposed by Johansen (1988), Johansen and Juselius (1990) to test the co-integration of variables. Finally, the paper proceeds to find the causal correlation of these variables through VAR and VECM model proposed by Engle and Granger (1987). The remainder of this article is organized as follow. Section 2 illustrates the method and describes the data used in this research. Section 3 shows the findings. Section 4 reports the discussion as well as conclusion of the study.

## 2. Method and Data

### 2.1 Method

#### 2.1.1 Unit Roots Test

For the researches use time series data format, the first testing is to check whether data is stationary or not. Moreover, a time sequence data considers as a stationary data if the average and variance of the equation are unchanged in time with the covariance value between two sections only depends on the distance or the time lag. It does not depend on the actual time that the covariance is calculated (Ramanathan, 2002). Stationarity of a time

series is important for estimation: applying least squares regressions on non-stationary variables will give misleading parameter estimates of the correlation between variables. In detail, a non-stationary data series means the variables of series that can increase or decrease over time or the effects of innovation do not die out with time. A major problem when working with a non-stationary variable is the conventional criteria, which used to judge whether there is a causal correlation between variables, are unreliable. Besides, checking for stationarity can also be important for forecasting: it will help us about what kind of processes we can apply to build into the model in order to make accurate predictions (Diebold and Kilian, 1999). For testing stationary and checking integrating determined order of real time series data, the paper uses Augmented Dickey-Fuller (ADF) test, Phillip-Person (PP) test and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test. Time lag in model is taken by references in previous researches for sample size and data characteristics in homology, through applying AIC criteria (Akaike Information Criteria) for lag determining. Finally, based on the result of pre-test unit root, the paper chooses the procedure of Johansen and Juselius to apply.

2.1.2 Co-integration

This paper will consider Johansen and Juselius (1990) and Johansen (1988) method to approach the co-integration test. The Johansen's method will take it starts point as the vector auto regression (VAR) of order $\rho$ by follows:

$$\mu + A_1 Y_{t-1} + \cdots + A_p Y_{t-p} + \varepsilon_t = Y_t \tag{1}$$

Where: $y_t$ is a $n \times 1$ vector of variables which are integrated of order one – commonly denoted I (1) and $\varepsilon_t$ is a $n \times 1$ vector of innovations. The Johansen test base on VAR model can be rewritten as:

$$\mu + \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta Y_{t-i} + \varepsilon_t = \Delta Y_t \tag{2}$$

Where: $\Pi = -I + \sum_{i=1}^{p} A_i$ and $\Gamma_i = -\sum_{j=i+1}^{p} A_j$

Johansen and Juselius proposed two tests as the trace test and the maximum eigenvalue.

The trace test checks $H_0$ of r co-integrating vectors against the alternative hypothesis of n co-integrating vectors.

$$-T \sum_{i=r+1}^{n} ln(1 - \hat{\lambda}_i) = J_{trace} \tag{3}$$

The maximum-eigenvalue test checks $H_0$ of r co-integrating vectors against the alternative hypothesis of (r + 1) co-integrating vectors

$$-T ln(1 - \hat{\lambda}_{r+1}) = J_{max} \tag{4}$$

Assume null hypothesis $H_0$: there is no co-integration vector between stock price and exchange rate. To accept or reject $H_0$, it needs to compare trace value or maximum eigenvalue value to critical values at 1%, or 5%, or 10%.

Result:

1. If trace value or maximum eigenvalue value is larger than critical value at 1%, or 5%, or 10%: reject hypothesis $H_0$, the time series of stock prices and exchange rates are cointegrated.

2. If trace value or maximum eigenvalue value is smaller than critical value at 1%, or 5%, or 10%: fail to reject hypothesis H0, the time series data of stock prices and exchanges rate are not cointegrated.

2.1.3 Granger Test

First, a simple definition of Granger's causality (1969) that is a time series data $X_t$ Granger-causes time series data $Y_t$ if $Y_t$ can be predicted with better accuracy by using past values of data $X_t$ rather than using the history of $Y_t$ alone. In other words, variable $X_t$ fails to Granger-cause variable $Y_t$ if $Pr(Y_{t+m}|¥_t) = Pr(Y_{t+m}|\Omega_t)$

Where:

- Pr() conditional probability
- $¥_t$ set of information available at t
- $\Omega_t$ the information obtained by exclude all information on $X_t$ from $¥_t$

Next, two models can be applied in Granger causality test named VAR model and VECM model. Based on the results obtained from Johansen test, the thesis will use each model for Granger causality test proposed by Engle and Granger (1987) in each period:

1. If there is no co-integration between SP and EX, the Granger causality test will apply VAR model. Thus, the formula of Granger causality test between two stationary series SP and EX by estimating the following VAR model as follows:

$$a_0 + a_1 SP_{t-1} + \ldots + a_p SP_{t-p} + \beta_1 EX_{t-1} + \ldots + \beta_p EX_{t-p} + u_t = SP_t \qquad (5)$$

$$\varphi_0 + \varphi_1 EX_{t-1} + \ldots + \varphi_p EX_{t-p} + \Phi_1 SP_{t-1} + \ldots + \Phi_p SP_{t-p} + v_t = EX_t \qquad (6)$$

2. If there is a co-integration between SP and EX, the Granger causality test will apply VECM model. Thus, the formula of Granger causality test between two stationary series SP and EX by estimating the following VECM model as follows:

$$a_0 + a_1 SP_{t-1} + \ldots + a_p SP_{t-p} + \beta_1 EX_{t-1} + \ldots + \beta_p EX_{t-p} + \theta_1 ECT + u_t = SP_t \qquad (7)$$

$$\varphi_0 + \varphi_1 EX_{t-1} + \ldots + \varphi_p EX_{t-p} + \Phi_1 SP_{t-1} + \ldots + \Phi_p SP_{t-p} + \theta_2 ECT + v_t = EX_t \qquad (8)$$

Where

- $a_0$ and $\varphi_0$ are the constant
- $a, \beta, \varphi, \Phi$ are long-run prameters
- *ECT* is the lagged error correction term derived from the long-term co-integration
- $u_t, \ v_t$ are white noise residuals
- p is suitably chosen positive integer

Then, the paper set null hypothesis for both cases $H_0$: $\beta_1 = \beta_2 = \ldots = \beta_p = 0$, is a test that EX does not Granger-cause SP. Similarly, the study also sets null hypothesis $H_0$: $\Phi_1 = \Phi_2 = \ldots = \Phi_p = 0$, is a test that SP does not Granger-cause EX.

In general, there are four possibilities as follows:

(i) One-way Granger causality (SP → EX): Stock price causes exchange rate. Therefore, the past values of stock price can be used for prediction of future values of exchange rate.

(ii) One-way Granger causality (EX → SP): Exchange rate causes stock price. Hence, the past values of exchange rate can be used for prediction of future values of stock price.

(iii) Two-way Granger causality (SP ⇆ EX): Stock price (exchange rate) causes exchange rate (stock price). So, the values of exchange rate can be predicted using the histories of stock price values and vice versa.

(iv) Non-Granger causality (SP ⇆̸ EX): There is no causal correlation between stock price and exchange rate if the variations in the latency of exchange rate have no effect on the variations in the latency of stock price and vice versa.

For testing $H_0$, the study compares prob. value calculated with critical value at 0.05 checking in Granger test panel.

Result:

1. If $prob.value < 0.05$: reject hypothesis $H_0$, there exists a causal correlation between stock prices and exchange rates.

2. If prob. value > 0.05: fail to reject hypothesis H0, there does not exist a causal correlation between stock prices and exchange rates.

*2.2 Data*

Secondary data will be used in this study and collected from document and internet gateways. They are the daily data of exchange rate and stock price in State Bank of Vietnam and Ho Chi Minh Stock Exchange. Particularly, stock price data has been collected from Ho Chi Minh Stock Exchange as the VN-Index. The value of VN-Index was the closing price of stock index on that day. The data of stock prices in the model are collected from Ho Chi Minh Stock Exchange website. Exchange rate data has been collected from the State Bank of Vietnam website. All the data is daily time series from March 1st 2007 to March 1st 2014. The paper converts all the data into the logarithmic to facilitate the calculation and analysis. EViews 7 is used for performing the testing and estimation data for time series in Vietnam.

**3. Results**

*3.1 Stock Price Volatility*

According to that chart, Vietnam stock market had a sharp decline in VN-Index following a strong growth phase earlier. Specifically, the VN-Index fell from a peak which was 1170.7 points in March 2007 to 235.5 points in February 24th 2009. It was also the lowest price since then. The cause of the slump was derived from both inside and outside the country. In more details, in the period 2007 – 2008, the instability of the U.S. economy has

started the world economic crisis. It made bankruptcies of some large banks such as Lehman Brothers, Washington Mutual, etc. Even worse, it also led many countries fall into recession or on the brink of bankruptcy such as Europe, Greece, etc. Meanwhile in Vietnam, a rapidly developing economy faced with high inflation (Year 2007 with 12.63%, Year 2008 with 19.89%) (Agribank, 2008). In this situation, the State Bank of Vietnam had adopted tight monetary policy and raised interest rates to curb inflation. Under the pressure from the global financial crisis and the difficulties of Vietnam economy, the investors in Vietnam feel anxious and constantly sell-off shares. This made the VN-Index plummeted from 2007 to 2009.



Figure 1. Vietnam stock market (VN-Index)

Soon after, Vietnam's economy could fall into deflation because the monetary policy was too much tightened. Then, Vietnam government had launched economic stimulus package worth $ 6.9 billion (equivalent to 122 thousand billion VND) (Government Portal, 2009). At that time, the VN-Index had risen from the bottom (235.5 points) to more than 600 points in the last months of 2009.

However, due to lack of experience in the management and control of the economic stimulus package, Vietnam economy continued to face inflation risk (Year 2010 with 11.75%, Year 2011 with 18.13%) (General Statistics Office of Vietnam 2013). Hence, in the period 2011-2014, the State Bank of Vietnam have applied continuously monetary tightening policy; keep high interest rates and some construction projects which funded by State has paused and tested efficiency (Government Portal 2011). Consequence, the growth of Vietnam economy had slowed and the investor confidence index in Vietnam also declined. On the other hand, the inflation rate has been significantly reduced (Year 2012 with 6.81%, Year 2013 with 6.04%) (General Statistics Office of Vietnam 2013) and the consumer demand had improved. These issues were reflected in the fluctuation of VN-Index in 2010 - 2014.

In brief, the volatility of VN-Index over the period of nearly 10 years was affected by many factors including: money supply, monetary policy, inflation, world economy, etc. and exchange rates. In our research, the correlation between the volatility of two variables will be clarified through empirical model.

*3.2 Exchange Rate Volatility*
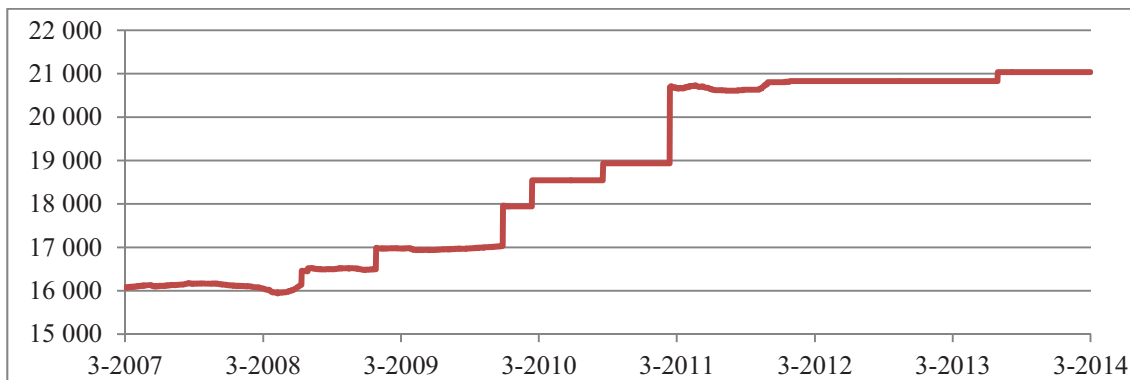


Figure 2. Exchange rate in Vietnam (VND/USD)

The chart shows the volatility of the exchange rate in Vietnam during the period from March 1$^{st}$ 2007 to March 1$^{st}$ 2014. Overall, the exchange rate increased in the period from March 2007 to March 2014. On March 1$^{st}$ 2007, the exchange rate was traded at 16 079 VND per USD. It was up to 21 036 VND per USD on February 28$^{th}$ 2014 by increasing over 30%.

Before 2009, the margins of exchange rate were low among years. However, after the crisis in 2009, the margins became extremely higher and higher by year. Especially, the margin was the highest in 2009 up to ± 5% (Agribank, 2009). This adjustment was aim to help exchange rate fluctuates more flexible and keep stick to foreign currency supply and demand in the market. By the way, it supported to banks and firms proactively plan for their business in 2009. Since then, the exchange rate margin was remained at ±3% for the certain purposes (Vietnam Construction Bank 2010). For example in February 2010, the goal was to balance harmoniously the supply and demand for foreign currency, increased the circulation of foreign currency in the market, and helped control the trade deficit and macroeconomic stability (Circular No. 03/2010/TT-NHNN 10/02/2010) (Government Portal 2010).

In addition, the margin in 2011 is very high on the chart. On February 11$^{th}$ 2011, SBV announced to changes in exchange rates from 18 932 VND per USD to 20 693 VND per USD (an increase of 9.3%). At the same time, the government narrowed trading margin to ± 1% (Nguyen, 2011). After 2011, the exchange rates changed slightly and it remained 21 036 VND per USD until March 2014.

*3.3 Relationship between Stock Price Volatility and Exchange Rate Volatility in Vietnam*
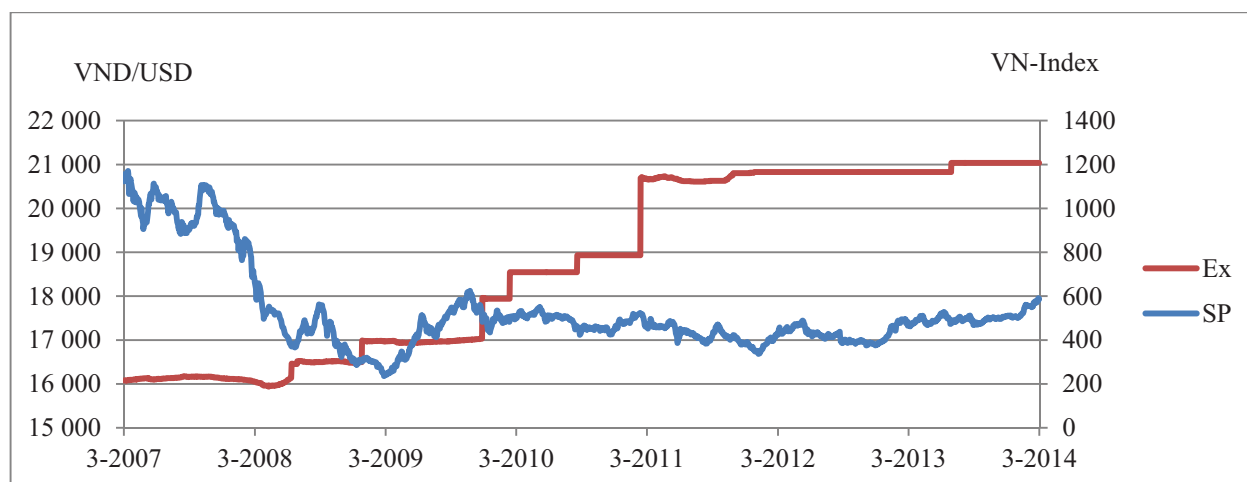


Figure 3. Stock price and Exchange rate in Vietnam

This chart illustrates the movements of exchange rate and stock price from March 1$^{st}$ 2007 to March 1$^{st}$ 2014. Based on the chart, it is analyzed by dividing into two periods because there are significant differences between before the stock market bottom (March 1$^{st}$ 2007 - February 24$^{th}$ 2009) and after the stock market bottom (February 25$^{th}$ 2009 - March 1$^{st}$ 2014).

Before the stock market bottom, the stock indices decrease rapidly. The overheating of the stock market in 2007 was a sign that the stock would face many difficulties in the next year 2008. In addition, on the first months of 2008, the economy fell into this time of high inflation and Government used monetary tightening policies to curb the inflation that caused stock market indices made a rapid decline. On the other hand, since 2007, due to the massive increase of FII inflows into Vietnam, the supply of dollars has increased dramatically. Vietnam's foreign exchange market had excess supply of dollars causing the decline of exchange rate in this period. From 2008, the exchange rate was raised slightly with three times changing the rate margin, ±1% on March 10$^{th}$ 2008, ±2% on June 27$^{th}$ 2008, and ±3% on November 7$^{th}$ 2008.

After the stock market bottom, the year of 2009 began with the increase in exchange rate margin event that began in March 24$^{th}$ 2009, was up to ± 5%. Since then, the exchange rate grew significantly from 2009 to 2011 and remained stable from 2012 to 2014. Besides, the stock indices also increased rapidly from 2009 to 2010. On February 25$^{nd}$ 2009, the VN-Index was 244.3 point and grew to the highest point, 624.1 point, on October 22$^{nd}$ 2010. After then, it decreased slowly and remained 586.5 point on February 28$^{th}$ 2014.

*3.4 Analyze the Correlation between Stock Price and Exchange Rate in Vietnam*

3.4.1 Unit Roots

Table 1 reports the result of ADF, PP unit root tests and KPSS stationary test for the period from March 1st 2007 to March 1st 2014. It shows the time series of stock price and exchange rate are stationary with integration level of 1 at the 1% significant level. Therefore, they are totally appropriate for the next statistical analysis of paper. To continue, the next step will examine co-integration for each period by using Johansen test.

Table 1. Unit Root test results (During March 1st 2007 to March 1st 2014)

| Variables | ADF | | PP | | KPSS | |
|---|---|---|---|---|---|---|
| | Level | First difference | Level | First difference | Level | First difference |
| SP | -2.305 013 | -32.380 44* | -2.124 761 | -32.4043* | 0.668 616** | 0.075 133 |
| EX | -1.624 294 | -41.447 34* | -1.631 794 | -41.446 76* | 0.634 218** | 0.116 501 |

*Note*. ADF, PP and KPSS are the Augmented Dickey-Fuller, Phillip-Person unit root test and Kwiatkowski-Phillips-Schmidt-Shin stationary test. * indicates that the null hypothesis of ADF and PP test is rejected at 1st difference. ** indicates that the null hypothesis of KPSS test is rejected at level.

3.4.2 Co-integration

This paper uses the value of Johansen test "Trace value" and "Maximum Eigen value" to find the co-integration between the stock price and the exchange rate data. Therefore, the results are as follows:

Table 2. Johansen Co-integration tests before the stock market bottom period (March 1 2007 - February 24 2009)

| Unrestricted Co-integration Rank Test (Trace) | | | | |
|---|---|---|---|---|
| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
| None | 0.014 437 | 10.748 43* | 18.397 71* | 0.4111 |
| At most 1 | 0.007 545 | 3.680 792** | 3.841 466** | 0.0550 |
| Unrestricted Co-integration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
| None | 0.014 437 | 7.067 638[+] | 17.147 69[+] | 0.7056 |
| At most 1 | 0.007 545 | 3.680 792[++] | 3.841 466[++] | 0.0550 |

*Note*. *,** indicate that the null hypothesis of no co-integration vector is fail to reject at the 5% significance level in Trace test. [+],[++] indicate that the null hypothesis of no co-integration vector is fail to reject at the 5% significance level in Maximum Eigen-value test.

Table 3. Johansen Co-integration tests after the stock market bottom period (February 25th 2009 - March 1st 2014)

| Unrestricted Co-integration Rank Test (Trace) | | | | |
|---|---|---|---|---|
| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
| None | 0.019 011 | 27.040 84* | 18.397 71* | 0.0024 |
| At most 1 | 0.002 471 | 3.087 106 | 3.841 466 | 0.0789 |
| Trace test indicates 1 cointegrating eqn(s) at the 0.05 level | | | | |
| Unrestricted Co-integration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
| None | 0.019 011 | 23.953 73[+] | 17.147 69[+] | 0.0044 |
| At most 1 | 0.002 471 | 3.087 106 | 3.841 466 | 0.0789 |
| Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level | | | | |

*Note.* \* indicates that the null hypothesis of no co-integration vector is rejected at the 5% significance level in Trace test. [+] indicates that the null hypothesis of no co-integration vector is rejected at the 5% significance level in Maximum Eigen-value test.

Firstly, Table 2 presents the results of the Johansen co-integration test for the period before the stock market bottom reveals that both Trace statistics test and Maximum Eigen-value test suggest no co-integration between two variables at significance level of 0.05. In other words, there is no long-run co-movement between exchange rates and stock prices in the period from March $1^{st}$ 2007 - February $24^{th}$ 2009.

Secondly, the results in Table 3 show that both Johansen co-integration test "Trace test" and "Maximum Eigen-value test" demonstrate that the stock price and the exchange rates are co-integrated and confirms existence of one co-integrating vector at the 0.05 significance level for the period February $25^{th}$ 2009 - March $1^{st}$ 2014. This proves that there is a long-run co-movement between variables after stock market bottom period.

Table 4. Johansen Co-integration tests for the full sample period (March $1^{st}$ 2007 - March $1^{st}$ 2014)

| Unrestricted Co-integration Rank Test (Trace) | | | | |
|---|---|---|---|---|
| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
| None | 0.003 862 | 7.987 886* | 18.397 71* | 0.6841 |
| At most 1 | 0.000 729 | 1.267 224** | 3.841 466** | 0.2603 |
| Unrestricted Co-integration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
| None | 0.003 862 | 6.720 662[+] | 17.147 69[+] | 0.7431 |
| At most 1 | 0.000 729 | 1.267 224[++] | 3.841 466[++] | 0.2603 |

*Note.* *,** indicate that the null hypothesis of no co-integration vector is fail to reject at the 5% significance level in Trace test. [+],[++] indicate that the null hypothesis of no co-integration vector is fail to reject at the 5% significance level in Maximum Eigen-value test.

Finally, as can be seen from Table 4, the study concludes that there is no evidence of co-integration between variables. Therefore, for the full sample period, stock price and exchange rate do not have any long-run correlation.

In briefs, during the period of economic instability before the stock market bottom and the period from March $1^{st}$ 2007 to March $1^{st}$ 2014, the long-run co-movement does not exist between stock prices and exchange rates. However, during the period of economic stabilization after stock market bottom, the time series of exchange rate and stock price have a long-run co-movement.

3.4.3 Granger Test

Firstly, based on the result of Johansen test for the period from March $1^{st}$ 2007 to February $24^{th}$ 2009, the paper does not find the co-integration between two variables. Therefore, this paper will continue apply the VAR model for Granger-causality test in the period before the stock market bottom.

Table 5. Granger causality test for the period before the stock market bottom (March $1^{st}$ 2007 - February $24^{th}$ 2009)

| Null Hypothesis | Chi-sq | Prob. | Result |
|---|---|---|---|
| DEX does not Granger Cause DSP | 5.587 574 | 0.1335 | Fail to reject $H_0$ |
| DSP does not Granger Cause DEX | 1.517 704 | 0.6782 | Fail to reject $H_0$ |

*Note.* Critical value of Granger test is 0.05

Looking at Table 5, the study can conclude that the exchange rate has no effect on stock prices and vice versa. It means that the volatility of the exchange rate cannot explain the volatility of stock prices and vice versa, at the 5%

significance level for the period before the stock market bottom.

Secondly, as mentioned above, the study finds that there is a co-integration between stock prices and exchange rates for the period after the stock market bottom. Based on this result, the study will apply the VECM model for Granger-causality test in this period.

Table 6. Granger causality test for the period after the stock market bottom (February 25th 2009 - March 1st 2014)

| Null Hypothesis | Chi-sq | Prob. | Result |
| --- | --- | --- | --- |
| DEX does not Granger Cause DSP | 2.324 594 | 0.3128 | Fail to reject $H_0$ |
| DSP does not Granger Cause DEX | 3.178 669 | 0.2041 | Fail to reject $H_0$ |

*Note.* Critical value of Granger test is 0.05

From the upper Table 6 of results, the paper proves the stock price values cannot lead the exchange rate values and vice versa for the period after the stock market bottom.

Thirdly, the result of Johansen test for the full sample is the same with the period from March 1st 2007 to February 24th 2009. Thus, the Granger causality test will be constructed based on VAR model for full sample period.

Table 7. Granger causality test for the full sample period (March 1st 2007 - March 1st 2014)

| Null Hypothesis | Chi-sq | Prob. | Result |
| --- | --- | --- | --- |
| DEX does not Granger Cause DSP | 2.279 597 | 0.5164 | Fail to reject $H_0$ |
| DSP does not Granger Cause DEX | 2.532 384 | 0.4695 | Fail to reject $H_0$ |

*Note.* Critical value of Granger test is 0.05

In Table 7, the results of full sample periods show that there is not causal correlation between exchange rate and stock price.

Therefore, the results of this research contradicts other studies as shown on the literature review, but it is in line with the findings of Abdalla et al. (1997), Morales (2007), Rahman and Uddin (2009), Kenani et al. (2012) and Zubair (2013).

Furthermore, the finding of research is similar with almost previous researches results in Vietnam case from Le (2012) and Vo (2013) that have suggested there is no correlation between exchange rate and stock price. It is also repeated and updated the finding of Tu (2013) that there is a long- run correlation from exchange rates to stock prices from September 2007 to July 2013. By contrast, it differs from the study of Huynh and Nguyen (2013) that suggested a very weak correlation between stock price and exchange rate from October 2007 to October 2012.

## 4. Discussion

In summary, the paper does not find any significant causal correlation between stock prices and exchange rates for both sub-periods and for all sample period in the case of VN-Index from March 1st 2007 to March 1st 2014. The end results are not belong to any initial assumptions approaches (portfolio and traditional). It means both portfolio approach and traditional approach are rejected in this paper. Therefore, the study suggests that the exchange rate has no effect on stock prices and vice versa. However, in the period after stock market bottom from February 25th 2009 to March 1st 2014, the paper finds that there is a long-run co-movement between the variables base on the result of Johansen test. Hence, it concludes that the past values of exchange rate cannot use for prediction of future values of stock price and vice versa but in the long-term, the volatility of the two indices can affect each other. On the other hand, Vietnam's stock market is also influenced by rumors of market and investors (Ho, 2012) as well as shows the characteristics of inefficient market in the weak form (Le, 2011). With a fledgling stock market, most of investors are completely dominated by the rumors from the spreading false information or from the largest shareholders. Therefore, Vietnam stock market does not usually reflect the actual situation of market, as well as Vietnam's economy. Hence, the volatility of exchange rates cannot affect directly to the stock index and vice versa. However, in the long term, the fluctuation of exchange rates can affect the stock index.

In detail, when the exchange rates increase or Vietnam currency devaluation against the U.S. dollar, it creates a competitive advantage for Vietnamese goods and products on the international market (Tu, 2013). Thus, the revenue of exported companies will grow up and it makes the stock index increases. In addition, the increase of exchange rate also affects the imported companies. The cost of materials for input will rise and make the cost of output be higher. Thus, it leads to the CPI to grow up and makes the development of economic slower. Hence, this affects negatively for the stock index in long run. To sum up, there is an existence of indistinct long-term correlation between exchange rates and stock prices. As far as investors are concerned, long-run co-movement between exchange rates and stock prices could be useful for investors more than short-term stockjobbers to make decisions, whenever exchange rates have changes, especially investing in import-export business.

On the other hand, the paper also provides some suggestions for policy makers to do their works in the best way. Particularly, at first the Government should stabilize the market to attract the capital from foreign investment and apply the exchange rate policy more flexible to create favorable conditions for some companies affected by the exchange rate policy. Thereby, the economic situation based on the movement of exchange rate will reflect clearly and accurately. Secondly, State Securities Commission of Vietnam should manage the disclosure of listed companies better, examine and control sources of information carefully to investors. Thus, it creates the clarity and transparency for investors and the rumors may eliminate. This helps investors analyze and make the right decisions in stock market. Therefore, the stock market will operate stably and follow the rules. As a result, the stock market forecast based on economic indicators such as the exchange rate will be easier and more convenient.

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**Appendix**

Data of stock price and exchange rate

| Time | SP | EX | LNSP | LNEX |
|---|---|---|---|---|
| 3/1/2007 | 1123.1 | 16 079 | 7.024 | 9.685 |

| Time | SP | EX | LNSP | LNEX |
|------|-----|------|-------|-------|
| 3/2/2007 | 1147.7 | 16 076 | 7.046 | 9.685 |
| 3/5/2007 | 1158.9 | 16 075 | 7.055 | 9.685 |
| 3/6/2007 | 1133.3 | 16 078 | 7.033 | 9.685 |
| 3/7/2007 | 1132.2 | 16 080 | 7.032 | 9.685 |
| 3/8/2007 | 1141.6 | 16 083 | 7.040 | 9.686 |
| 3/9/2007 | 1155.7 | 16 081 | 7.052 | 9.685 |
| 3/12/2007 | 1170.7 | 16 085 | 7.065 | 9.686 |
| 3/13/2007 | 1158.3 | 16 087 | 7.055 | 9.686 |
| 3/14/2007 | 1114.2 | 16 089 | 7.016 | 9.686 |
| 3/15/2007 | 1065.5 | 16 088 | 6.971 | 9.686 |
| 3/16/2007 | 1109.8 | 16 092 | 7.012 | 9.686 |
| 3/19/2007 | 1133.3 | 16 089 | 7.033 | 9.686 |
| 3/20/2007 | 1117.2 | 16 094 | 7.019 | 9.686 |
| 3/21/2007 | 1111.6 | 16 091 | 7.014 | 9.686 |
| 3/22/2007 | 1099.8 | 16 089 | 7.003 | 9.686 |
| 3/23/2007 | 1090.6 | 16 090 | 6.994 | 9.686 |
| 3/26/2007 | 1072.2 | 16 094 | 6.977 | 9.686 |
| 3/27/2007 | 1034.2 | 16 097 | 6.941 | 9.686 |
| 3/28/2007 | 1031.8 | 16 099 | 6.939 | 9.687 |
| 3/29/2007 | 1068.7 | 16 101 | 6.974 | 9.687 |
| 3/30/2007 | 1071.3 | 16 100 | 6.977 | 9.687 |
| 4/2/2007 | 1055.1 | 16 103 | 6.961 | 9.687 |
| 4/3/2007 | 1027.5 | 16 105 | 6.935 | 9.687 |
| 4/4/2007 | 1050.9 | 16 103 | 6.957 | 9.687 |
| 4/5/2007 | 1049 | 16 107 | 6.956 | 9.687 |
| 4/6/2007 | 1033.9 | 16 105 | 6.941 | 9.687 |
| 4/9/2007 | 1041.4 | 16 108 | 6.948 | 9.687 |
| 4/10/2007 | 1039.7 | 16 112 | 6.947 | 9.687 |
| 4/11/2007 | 1034.7 | 16 114 | 6.942 | 9.687 |
| 4/12/2007 | 1027.6 | 16 112 | 6.935 | 9.687 |
| 4/13/2007 | 1013 | 16 115 | 6.921 | 9.688 |
| 4/16/2007 | 983 | 16 115 | 6.891 | 9.688 |
| 4/17/2007 | 965.7 | 16 117 | 6.873 | 9.688 |
| 4/18/2007 | 1001.1 | 16 120 | 6.909 | 9.688 |
| 4/19/2007 | 998.1 | 16 118 | 6.906 | 9.688 |
| 4/20/2007 | 968.9 | 16 121 | 6.876 | 9.688 |
| 4/23/2007 | 931.2 | 16 119 | 6.836 | 9.688 |
| 4/24/2007 | 905.5 | 16 122 | 6.808 | 9.688 |
| 4/25/2007 | 923.9 | 16 126 | 6.829 | 9.688 |
| 5/2/2007 | 935.5 | 16 127 | 6.841 | 9.688 |
| 5/3/2007 | 937.5 | 16 130 | 6.843 | 9.688 |
| 5/4/2007 | 947.2 | 16 128 | 6.854 | 9.688 |
| 5/7/2007 | 983.6 | 16 132 | 6.891 | 9.689 |
| 5/8/2007 | 1015.4 | 16 128 | 6.923 | 9.688 |
| 5/9/2007 | 1020 | 16 120 | 6.928 | 9.688 |
| 5/10/2007 | 1020 | 16 122 | 6.928 | 9.688 |
| 5/11/2007 | 1039.6 | 16 117 | 6.947 | 9.688 |

| Time | SP | EX | LNSP | LNEX |
|---|---|---|---|---|
| 5/14/2007 | 1066 | 16 114 | 6.972 | 9.687 |
| 5/15/2007 | 1054.7 | 16 104 | 6.961 | 9.687 |
| 5/16/2007 | 1041 | 16 102 | 6.948 | 9.687 |
| … | … | … | … | … |
| 1/15/2014 | 526.7 | 21 036 | 6.267 | 9.954 |
| 1/16/2014 | 533.5 | 21 036 | 6.279 | 9.954 |
| 1/17/2014 | 543.6 | 21 036 | 6.298 | 9.954 |
| 1/20/2014 | 553.7 | 21 036 | 6.317 | 9.954 |
| 1/21/2014 | 559.9 | 21 036 | 6.328 | 9.954 |
| 1/22/2014 | 551.9 | 21 036 | 6.313 | 9.954 |
| 1/23/2014 | 553.5 | 21 036 | 6.316 | 9.954 |
| 1/24/2014 | 560.2 | 21 036 | 6.328 | 9.954 |
| 1/27/2014 | 556.5 | 21 036 | 6.322 | 9.954 |
| 2/6/2014 | 554.7 | 21 036 | 6.318 | 9.954 |
| 2/7/2014 | 549.7 | 21 036 | 6.310 | 9.954 |
| 2/10/2014 | 555.9 | 21 036 | 6.321 | 9.954 |
| 2/11/2014 | 553.9 | 21 036 | 6.317 | 9.954 |
| 2/12/2014 | 564.2 | 21 036 | 6.335 | 9.954 |
| 2/13/2014 | 570.2 | 21 036 | 6.346 | 9.954 |
| 2/14/2014 | 572.2 | 21 036 | 6.349 | 9.954 |
| 2/17/2014 | 570.2 | 21 036 | 6.346 | 9.954 |
| 2/18/2014 | 574.6 | 21 036 | 6.354 | 9.954 |
| 2/19/2014 | 578.1 | 21 036 | 6.360 | 9.954 |
| 2/20/2014 | 571 | 21 036 | 6.347 | 9.954 |
| 2/21/2014 | 570.6 | 21 036 | 6.347 | 9.954 |
| 2/24/2014 | 576.6 | 21 036 | 6.357 | 9.954 |
| 2/25/2014 | 586.2 | 21 036 | 6.374 | 9.954 |
| 2/26/2014 | 589.8 | 21 036 | 6.380 | 9.954 |
| 2/27/2014 | 584.8 | 21 036 | 6.371 | 9.954 |
| 2/28/2014 | 586.5 | 21 036 | 6.374 | 9.954 |

(Source: HSX & SBV)

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# Religious Socialization in Iranian Islamic Girls Schools

Fakhereh Khatibi Jafari[1], Steven Eric Krauss[1] & Turiman Suandi[2]

[1] Institute for Social Science Studies (IPSAS), Universiti Putra Malaysia, Selangor, Malaysia

[2] Faculty of Educational Studies, Universiti Putra Malaysia, Selangor, Malaysia

Correspondence: Fakhereh Khatibi Jafari, No. 11, Sepideh Alley, Dolat Street, Gholhak, 19398-15811, Tehran, Iran. Tel: 98-912-249-9417. E-mail: f.khatibi@gmail.com

## Abstract

Although Iran's educational system is not secular in character, many Iranian parents prefer to send their children to private Islamic schools. It is widely assumed that such schools are more effective in socializing their students toward the Shiite worldview. To date, no known studies have been conducted to investigate the impacts of the Islamic schools' formal and informal religious education on Iranian youths' religious commitments and preferences. In short, this article focuses on how attending private Islamic schools in Iran impacts on the construction of students' religious beliefs and attitudes. A qualitative, phenomenological methodology was employed with thirty former students of Islamic girl schools, aged 20 to 25 years old. Overall, the findings contrast somewhat with the existing literature by demonstrating that in most of our study participants, attending Islamic schools influenced future religious preferences and commitments by increasing unpleasant feelings and critical attitudes toward religion in general, and the Islamic-Shiite religious worldview specifically.

**Keywords:** religious socialization, religious education, Islamic girls schools, young Iranians, Islamic-Shiite worldview

## 1. Introduction

The Iranian educational system is not secular in character. Since the establishment of the Islamic Republic of Iran in 1979, the country's educational system has become the primary focus of the government's Islamization project. In its widest sense, Islamization is a process of society's moving towards Islam. As the most accessible socializing agency, schools provide a unique environment for the religious government of Iran to present their preferred Islamic values to post-revolutionary generations in a systematic manner. In short, the main aim of the Islamization project is the creation of devout Muslims who are faithful to the ideal and cultural values of the established religious order and also committed to the revolutionary values. The Iranian government has explicitly set Islamic education as its objective, which aims to familiarize students with Islamic beliefs, values, and rules. In general, studying religion (from the Islamic perspective), the Quran, and the Arabic language are compulsory in Iranian schools, alongside other subjects (Shorish, 1988; Godazgar, 2001).

According to the Iranian educational system, schools are divided into public and private. Private schools were permitted to re-open after the revolution (1979) in 1988 as "non-profit" institutions. Nowadays, there are almost 16,000 non-profit, private schools available in Iran and more than one million students (near 8 percent of the overall number of the students in Iran) have been studying in these schools. Unfortunately, there is no information regarding the exact number of Islamic schools in Iran but it could be stated that the large number of Iranian private schools are Islamic. (Note 1)

Iranian Islamic schools are educational private institutions where everything is defined by Islamic identity and religiosity. Islamic schools attempt to socialize their pupils according to the Shiite worldview. The dominant religious climate in these schools is the main parameter that makes them different from normal schools. Islamic schools in Iran provide special extra-curricular activities for students, such as daily collective prayers, reading Quran in morning programs, holding Islamic ceremonies, reading special prayers once or twice a week, organizing extra religious classes or speeches, and travelling to holy places. These activities are mostly compulsory. Since the Islamic revolution, Iranian schools have also been segregated by gender at all levels. Iranian Islamic girl schools, in addition to having Islamic formal and informal education, place an emphasis on observing the Islamic dress code and rules of conduct for women. Generally, wearing the *Chador* (i.e. a special

type of veil) is compulsory for girls studying at the majority of Iranian Islamic schools, especially at the secondary school level. In fact, the main target of Islamic schools is to train religiously committed women who follow the Islamic rules and regulations in every stage of life. (Note2)

To date, in spite of the large number of students that attend religious schools in Iran, no known studies have been conducted on the religious beliefs and attitudes of young Iranians studying in Islamic schools. In addition, no known studies have investigated the impact of the Islamic schools' approach to religious education on Iranian students' religious commitment and preferences. This article is a part of larger study that has attempted to address the existing gaps regarding young Iranians' religious beliefs and attitudes in Islamic schools in Iran. In this article, we attempt to explore how young Iranian women who studied in Islamic schools perceive the Islamic schools' formal and informal religious education program.

## 2. Religious Socialization and Its Agents

Religion is a complex agent of socialization. In short, religious socialization has been defined as "the process through which people come to hold religious preferences" (Sherkat, 2003, p. 152). Johnstone (2006) believes that religious socialization, which is a process of becoming religious, is not a unique or unusual process but "is simply socialization by a group into a body of norms that provides a set of meanings and interpretations that individuals internalize and relate to the large body of other meanings they possess" (p. 82). Johnston suggests two general methods or mechanisms which religious groups or religions employ to socialize their members: formal and informal mechanisms. He considers the formal educational system as the first mechanism that religious groups and societies establish in respect of religious socialization. In the next step, Johnston believes that socialization takes place informally through interaction with members of religious groups or societies. Needless to say, such religious socialization could happen in all kinds of groups, but the family is indeed the most important resource of informal religious socialization (Johnstone, 2006, pp. 57-59). Undoubtedly, religious socialization is more than just formal religious education. It includes the acquisition of religious attitudes and values, behaviours, habits and skills transmitted not only in schools or religious organizations, but through the family, the peer group, mass media, and society as well.

According to Sherkat (2003), the main agents that impact religious socialization include parents and family, peers, religious denominations, and educational systems and institutions. Furthermore, demographic variables such as age (cognitive development), gender, ethnicity, social and economic class, and personality characteristics, impact religious socialization (Saroglou, 2010; Sherkat, 2003; Arnett, 2007; Johnstone, 2006; Hunt, 2005; Helve, 1991; McCullough, Tsang, & Brion, 2003).

### 2.1 Schools & Religious Socialization

The connection between education and religious preferences and commitments has continuous importance for social and educational researchers. In fact, schools, alongside families, have the vital task of shaping and directing children's and youths' religious identities. In addition, some scholars believe that families as a main source of primary religious socialization socialize their children through channelling them into religious education as a main source of secondary religious socialization. In other words, these scholars believe that religious education has significant direct and indirect influences on individuals' religiosity (Himmelfarb, 1979; Shah, 2004; Erickson, 1992; Vermeer, 2010). On the other hand, others believe that formal religious education in schools has less effect on the religiosity of children and adolescents after controlling for the effects of families and peers (Greeley, Mccourt, & Mccready, 1976).

Debates aside, there is agreement that schools are a unique socialization agent that compliments the primary influence of the family (Wentzel & Looney, 2007). Schools are one of the earliest social environments that children interact with, and remain within, until they become young adults. The importance of schools in the socialization of children and youths is not only through organized, structured curricula and classes, but also through implicit influences. These are often referred to as the hidden curriculum. The hidden curriculum (embedded in the school climate) is what the students generally experience in the school as a social context separate from the formal education they receive.

In addition to the school environment, peers play in important role in the school socialization process. Although teachers and instructors perform the central pedagogical function of transmitting knowledge and values, the process is complimented through social interactions with peers (Ballantine & Hammack, 2001). Peers tend to have a lasting impact on the socialization process within schools, particularly during adolescence.

In general, the existing literature in relation to religious education could be categorized into two major themes. The first views religious education and schooling from a psychosocial perspective. A large number of researchers

and scholars belonging to this category have devoted their time to the necessity of religious education in schools from the context of today's democratic, secular world. Much of this work has been carried out in Western countries. This body of work has looked at the social and psychological impact of attending religious schools and receiving formal religious education on different social and psychological outcomes such as identity (particularly national identity), culture (e.g. collectivism, individualism, etc.), worldview construction and social values, social and moral behaviour, social and cultural integration, assimilation and isolation, and lifestyles (see, e.g. Merry & Driessen, 2005; Macneill, 2000; Sagy, Orr, & Bar-On, 1999; Tan, 2007; Curry & Houser, 1997; Zia et al., 2007). Conversely, the second category includes a large number of studies that attempt to unearth the influences and effects of attending religious schools on educational problems, especially academic achievement. This research considers religious education and schools more from the pedagogical perspective rather than the social point of view (See, e.g. Jeynes, 2002a, 2002b, 2009).

Broadly speaking, much of the existing research investigating the relationship between religious education and socialization has focused on the indirect effect of religious education through other agents of socialization, particularly the family and peers. However, in recent years, the number of studies looking at religious education independently have also increased (see., e.g. Shah, 2004; Vermeer, 2010) .

## 3. Methods

A qualitative method design was employed in this study. Consequently, a total of thirty young girls, who were former students of Islamic girl schools in Iran and aged between 20 to 25 years old, were interviewed. The interviewees were selected out of the young girls who had completed between four to twelve years (from age seven to eighteen) of studies in various Islamic schools. In addition, the interviewees graduated from their respective schools between two to five years from the time of interviewing. By limiting the number of years after graduation between two to five years, we attempted to choose interviewees who were removed from their school experiences long enough (but not too long) in order to provide a thorough assessment of their respective experiences.

Religious foundations and family religious settings have significant influences on the religious socialization process of youths. Many scholars believe that parental primary religious socialization has a long-life impact on religious identity of children (see e.g. Helve, 1991; Krause & Ellison, 2007; Hunsberger & Brown, 1984; Park & Ecklund, 2007; Himmelfarb, 1979). Despite the fact that family's influences could be considered directly, indirectly (through channelling children to religious peers, schools, organizations, etc.), or both, in all studies concerning religious beliefs and attitudes, the researchers should consider the family religious orientation and commitment of their informants as the first agent of religious socialization. Thus, in this study, in order to have a clearer image of the process of religious socialization of our young interviewees, the religiosity and religious orientation of parents, siblings, and very close relatives of our young interviewees were also considered. However, since the interviewees of our research were former students of religious schools, some general similarities in religiosity level and model of their families were observed. All the informants came from a religious background and grew up in religious families. As religious schools in Iran are private and tuition fees are relatively high, students that study in these schools typically come from upper or middle-upper class families. Most of the informants in the current study were living in the affluent or wealthy areas of Tehran (the capital of Iran).

Gender has been shown to be a strong predictor of positive religious socialization. Several studies have demonstrated differences among men and women in respect to the religious development process, with most pointing to young women being more religious than men (see, e.g. Helve, 1991; Hunsberger, Pratt, & Pancer 2001; Hunt, 2005). In addition, in the preliminary stages of our study, we observed that in spite of existing similarities there are some differences between the formal and informal religious educations provided in boys and girls Islamic schools in Iran. Finally, as the main researcher collecting the data was female, we were concerned with gender complexities in relation to accessing informants given the strictness in which Iranian Islamic schools approach the gender issue. Given these multiple considerations, we decided to confine the interviewees to young women. Undoubtedly, this limiting criterion has helped us to study the research problem with greater intensity and focus.

Non-probability sampling and purposeful selection of participants are key points in every qualitative study. As such, the research findings cannot be generalised to the larger population of young people studying in Iranian Islamic schools. Nevertheless, we feel the findings are an important initial attempt at making meaning of a previously unexamined subject that sheds light on a religious culture that is at best under-investigated and that deserves greater attention by researchers. A brief profile of the interviewees is presented in a form of table in

appendix A. (Note 3)

## 4. Findings and Results

### 4.1 Religious Socialization in Iranian Islamic Girls Schools

Due to the fact that socialization is an objective-subjective process that always takes place in the context of a specific social structure, researchers often speak about the success and failure of a given socialization process. Given that a wholly successful or unsuccessful socialization process does not exist theoretically or empirically, scholars often refer to degrees of success or failure of specific socialization processes (Berger & Luckman, 1966; Berger, 1967). In this respect, our evaluation criterion was constructed by assessing two important processes: first, the level of harmony, accordance, symmetry or asymmetry of the former students' religious worldview with that of the formal established Shiite worldview; and second, the feelings and attitudes of the former students regarding their religious socialization process in the Islamic schools.

Although our young interviewees were students of different Iranian Islamic schools (Note 4), they had more or less similar feelings and attitudes toward their religious education. It could be stated that in most of the cases, they believed that going to Islamic schools actually turned them off to Islam and Shiism, either temporarily or permanently. The findings revealed a wide range of unpleasant feelings and reactions toward religious education.

Zoha, 23 years old, does not consider her family very religious in comparison with some other Iranian families. In her opinion, religion is a completely personal issue. Zoha defines herself as an theist who is attempting to behave morally. She does not generally perform Islamic practices and rituals. Zoha spent five years in Islamic schools at both the primary and secondary levels. She believes that having gone to Islamic school kept her seriously away from identifying with any religious belief and practice, and this continued for many years after graduation. Zoha clarifies:

> Going to the Islamic school has a great negative impact on my religiosity. When I came out from my Islamic guidance school, I've given up praying. I remember in school, my classmates and friends stood in the prayer's lines even when they had their periods. They were scared to get their negative points. Sometimes, they participated in collective prayers without performing their ablutions. I couldn't understand them… little by little, these contradictions raise my doubts about different Islamic beliefs ... They've really kept me away from religion, Islam and religiousness for quite a number of years (Zoha, 23 years old).

Shadi is another respondent whose experiences were similar to Zoha. She spent five years in Islamic school at both primary and secondary levels. Shadi believes her parents to be religious. She mentions despite the fact that her parents have a deep religious faith and perform all the Islamic rituals, they permit their children to decide for themselves. Shadi believes that she is not a religious person but she believes in God. Shadi has lots of unpleasant memories from her school days. The memories that she recalled even after having left the school five years before made her feel very upset and angry. She criticizes her school's religious education and orientation system. She believes that her school's religious training program was useless.

> My school's religious trainings were really ridiculous. They didn't have any special aim or reason. Our only fun was going out of school without wearing the *chador* and watching out that nobody saw us. It was nothing about religion… They could train me in a way that I had the *chador* today, but now I feel hatred when I see somebody in the *chador*. I always discuss the *chador* with my mum. I ask her to have the *hijab* but not by wearing the *chador*. In fact, the *chador* reminds me of all my school's bad memories (Shadi, 24 years old).

Narges is a unique case in our study. She is a sensitive young girl who was a student for eleven years in one of the most famous religious schools in Tehran. Narges does not like the religiosity of her parents. She believes that her parents are very traditional and do not perceive the today's conditions of Iran's modern society. Narges explains that she fears greatly the life hereafter and the Day of Judgment. In fact, Narges's deep-seated fear is rooted in her early religious education in Islamic school. Narges does not like Islam at all and strongly believes that her Islamic school should be blamed for having instilled these fearful ideas. She clarifies in this regard:

> I'm not enjoying my life very much. I think that is my schools' fault. I don't like my children going to the Islamic school in future. I don't want them to have bad experiences like me. They (the Islamic schools' principals and teachers) didn't know at all what they really expected from the students, for example, they held religious ceremonies but asked the children to be silent and not clap their hands… I remember when I was in the elementary school, they were talking about many scary things like the pressures that one feels in grave after death, the hell, fire, and scary creatures in the morning programmes. They've really given me a

fear of death. This isn't a normal fear… (Narges, 23 years old).

From the findings, two factors played a principle role in the degree of unpleasant feelings and negative attitudes that the students had toward their Islamic schools' religious education. The first is the degree of dissimilarity between the homes' and schools' religious teachings. Students who belonged to families whose religious socialization was not as strict as that in their Islamic schools suffered more from the school's religious pressures. As a result, they faced contradictions in everyday life that directly and deeply affected their feelings and attitudes toward Islamic-Shiite beliefs and values.

Raha studies art at one of the universities in Tehran. She spent ten years in preliminary and secondary education in Islamic schools. In general, Raha likes "the moderate religiosity model" of her parents although there are some small differences between them. Raha believes that the religious perspectives and teachings that she received in Islamic school were dissimilar to her parents' religious education. She explains that these paradoxes confused her a lot during her school years.

> My parents have educated us in the religion but there is no force to practise everything we were taught. It is up to me to pray or not .... My father has always taught me not to break anyone's heart, not to harm others and not to talk behind one's back. These are what my father has taught me but the school authorities were doing all these things regularly. I was really confused. I couldn't understand why people who keep talking about God, Islam and the Prophet, do all the bad things. There is a huge paradox in their words and actions. That's why I have never liked it…. I have tried to forget them and I don't like to think of them (Raha, 24 years old).

Zahra, who received five years of religious formal education in an Islamic school, elaborates on the differences between home and school:

> In the school, everything was mandatory and they punished us so hard if we didn't follow them. But at home, there was no punishment although they really liked it if we followed Islam generally … I believe that reading *Ziarat-e-Ashura* or *Dua-e-Tavasol* every week is meaningless. They made us read these prayers every Thursday and Tuesday. I always liked to run away from it … I was always fighting with my mum when she prayed for two years after school … I didn't like anything religious at that time … (Zahra, 23 years old). (Note 5)

In contrast to the above situation, the students who received relatively similar religious training from home and school found it easier to accept the Islamic schools' religious principles although they also believe that their Islamic schools' approach was very strict. The students faced fewer contradictions in their daily lives, which helped them to feel less pressure in school.

Leila is twenty two years old. She is married and studies chemistry at a Tehran-based university. She studied at Islamic schools for eleven years. She grew up in a traditional Muslim family. In addition, she married into a very traditional Muslim family when she was eighteen. Leila believes that her religiosity is in accordance with her parents' religiosity. She explains that although her parents' religious teachings were less strict than her schools' teachings, they were not so different. Therefore, she did not feel uncomfortable in school.

> The Islamic schools that I've studied in were very strict generally. They put so much severe pressure on us, especially about the *hijab*. I remember one of our teachers told us that if our hair comes out from the scarf, God will hang us by our hair in hell… my parents' religious trainings were much easier than the school but not so far different from them. Perhaps, that's the reason it wasn't so hard for me to obey the school's religious rules, such as wearing the *chador* or performing the daily prayers because I've already done all of these at home…(Leila, 22 years old).

The second major influence on our interviewees' feelings and attitudes toward their Islamic schools relates to the degree of religious pressure that the students encountered. In most of the cases, our informants -- who went to Islamic schools where the religious programmes and education of the schools were more voluntarily rather than compulsory -- felt more freedom and less pressure. Therefore, they had less negative views toward the school's religious educational program.

Razieh grew up in a traditional religious family. She is 23 years old and recently graduated from university. Razieh spent twelve years in different Islamic schools. She believes that in general her schools' religious training was almost the same with the exception of her high school, which she described as an "intellectual Islamic school." She explains that it was completely voluntary for them to follow Islamic rules and regulations in her high school. Razieh believed her high school played an important role in her current religious orientation.

> My high school was totally different from the other Iranian Islamic schools… we had so much freedom in

the school … Nothing was obligatory. I couldn't remember that they put any pressure on us… actually, my school was so similar to the reality of the society, and nobody forces you to do the Islamic rituals when you enter the society. You are alone to decide. In my school, we always decide by ourselves to pray or not, for example… I think, the main target of our high school was to educate us in a way that we would become intellectual religious individuals in future… I think they have been successful… (Razieh, 23 years old).

## 5. Conclusion

The findings demonstrate that religious socialization in the Iranian Islamic girl schools under study face several challenges, as expressed by our informants. By putting excessive religious pressures on the students, overemphasizing the performance of religious practices and rituals and insisting on observing all Islamic rules especially the *hijab* (the Islamic dress code for women), the schools caused the students to challenge the Islamic religious system, either completely or partially. In fact, most of our informants attempted to escape from the schools' religious pressures by rejecting the schools' religious education. The severity of the impact was dependent on several psychosocial and environmental factors, such as the degree of religious pressure that students experienced, the students' personality, and the quality and quantity of religious education at home. Undoubtedly, the relative success of one society or group in the religious socialization of its members is strongly dependent on the ability of that particular group to establish relative harmony between peoples' objectives and subjective worlds. In other words, no society or group can be successful in the socialization of its members when the members are not able to internalize the society's values and beliefs, either religious or secular.

In conclusion, the study findings demonstrate that the Islamic girl schools were not fully capable of creating a harmonious relationship between the young students' religious subjectivities and their religious objective worldviews in the Islamic school environment. The findings contrast with the existing literature (Erickson, 1992; Himmelfarb, 1979; Shah, 2004; Vermeer, 2010) in showing that the students' unpleasant feelings and negative attitudes toward their religious tradition and the Shiite religious worldview was at least partially due to the students' experiences in their schools' religious education programs.

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**Notes**

Note 1. More statistics are available at http://www.khabaronline.ir/detail/449185/society/education

Note 2. A *chador* is a full-body-length semicircle of fabric that is open down the front. This cloth is tossed over

the woman's or girl's head, but then she holds it closed in the front. The chador has no hand openings, or any buttons, clasps, etc., but it is held closed by her hands or tucked under the wearer's arms.

Note 3. The names appeared in the table are pseudonyms. Real names are omitted due to ethical issues.

Note 4. In our study we attempted to select our informants in a way that we could also have the variety in the schools. Overall, our interviewees came from twenty two different Iranian Islamic girls schools located in Tehran.

Note 5. Ziarat-e-Ashura & Doa-e-Tavasol are two duas (supplications) written in *Mafatih al-Jinan.* Mafatih al-Jinan is a compilation of selected chapters from Quran, acts of worship after prayers, supplications narrated from the household of the Prophet and text of Ziyarats. It contains some of the richest and most reliable supplications and verses from the vast Shi'a literature.

## Appendix A

The profile of informants

Table 1. The profile of Informants

| Name | Age | Marital Status | Years in Islamic Schools | Education |
|------|-----|----------------|--------------------------|-----------|
| Fariba | 22 | Single | 12 | B. Student |
| Farnaz | 23 | Single | 12 | B.S. |
| Zohreh | 22 | Single | 7 | B.S. |
| Saba | 24 | Single | 12 | B.S. |
| Leila | 22 | Single | 12 | B. Student |
| Azadeh | 22 | Single | 7 | B.S. |
| Sheida | 23 | Single | 7 | B. student |
| Faezeh | 23 | Single | 7 | B. student |
| Sahar | 23 | Single | 6 | B.A. |
| Samaneh | 21 | Single | 12 | B. student |
| Parvaneh | 22 | Single | 7 | B. student |
| Farideh | 22 | Single | 10 | B. student |
| Zeinab | 24 | Single | 4 | M.S. |
| Razieh | 23 | Single | 12 | M. student |
| Zoha | 22 | Single | 12 | M. student |
| Mariam | 23 | Single | 12 | B.S. |
| Sara | 25 | Single | 9 | M.A. |
| Zahra | 23 | Married | 5 | B. Student |
| Neda | 20 | Single | 6 | B. Student |
| Raha | 24 | Single | 10 | B.A. |
| Sanam | 23 | Single | 12 | B. Student |
| Zoha | 23 | Single | 5 | B. Student |
| Shadi | 24 | Married | 5 | B.A. |
| Narges | 23 | Single | 11 | B.A. |
| Vafa | 23 | Single | 7 | B.S. |
| Elham | 20 | Single | 4 | B. Student |
| Fatemeh | 25 | Single | 7 | B.A. |
| Mona | 23 | Single | 12 | B.S. |
| Hoora | 23 | Single | 7 | B.S. |
| Mahnaz | 21 | Single | 12 | B. Student |

# Revisioning History: A Deconstructionist Reading of a Learner's Multimodal Text, *Revenge*

Zillasafarina Ja'afar[1], Noraini Md. Yusof[2] & Noraini Ibrahim[3]

[1] English Language Department, Teacher Training Institute of Malaysia, Malaysia

[2] Postcolonial Literature Department, School of Language Studies and Linguistics of Faculty of Social Sciences and Humanities, National University of Malaysia, Malaysia

[3] Institute of Malaysian and International Studies, National University of Malaysia, Malaysia

Correspondence: Zillasafarina Ja'afar, English Language Department, Teacher Training Institute of Malaysia, Malaysia. E-mail: zillajaafar70@gmail.com

## Abstract

Recent interest in multimodality recognizes the integration of text and image in meaning-making as representing reality. It has also been argued that with the use of digital communication, the meanings of visual and verbal data can be easily manipulated rendering them unreliable. As such, a close and critical reading of the text is required to discover what is hidden, absent, or inconsistent with it. In a deconstruction of a multimodal digital composition of a poem that involves revisioning of history, this paper privileges the absences of cultural and historical texts to signify socio-political issues. An eclectic use of theoretical concepts on meaning-making, especially those proposed by Kress and van Leeuwen, Foucault and Baudrillard, constructs the discussion of the analysis. The digital poem entitled 'Revenge' is deconstructed to further discover such absence in the text. The findings reveal that language and images are used by the learner as a source of power to negotiate the boundaries of identity. It has also been discovered that the message in rhetoric and visuals complement each other to support the process of meaning-making.

**Keywords:** absence, deconstruction, multimodal digital poem, reality, revisioning history, socio-political

## 1. Introduction

### 1.1 Prelude to the Study

A growing interest in representing reality has been observed in recent multimodal creative productions, which incorporate the use of selective visual and images as the medium to communicate meanings. Kress and van Leeuwen, (2001) define multimodality as "the use of several semiotic modes in the design of a semiotic product or event, together with the particular way in which these modes are combined". Here, mode is defined as a "socially and culturally given resource for making meaning" (Kress, 2009). In this paper, language and images are the sets of resources used to represent reality via poetry. The resources are also extended to the use of punctuations as rhetorical markers (Fahnestock, 2011). In addition, visual choices, such as costume and colour have also been included in order to enhance the cultural elements chosen (Page, 2009). Nevertheless, such a creation today is different from those produced in the past because of 'increasing individualism', 'neo-liberalism' and digitalization' that have revolutionized the means through which people interact (Kress, 2010; Sturken & Cartwright, 2009). The reality that is presented is also dissimilar from those produced in the past because the resources used are by nature, personally and technologically driven. This paper thus argues that reality created by a multimodal production can be influenced by the liberation and empowerment of production.

### 1.2 Importance of the Study

In the representation of reality, revisioning, as an act of creative production is required as a way to look into the past from the lens of contemporary subjects. Here, re-visioning means the critical retrospection of the past as a way of designing creative work that sparks ideas to re-fashion the historical representations, with the intention to meet contemporary aspiration (Croce, 1970; Greenblatt, 1980; Rich, 1980). When socio-politically inclined writers revision the past, they look back at historical events and critically analyse them to represent their socio-political stand. One mode of such a critique can be via the poem, which is critical and socio-political (Rich,

1980, 2005). Indeed, this interpretation is later re-constructed into a new form of historical representation to express an ideological footing (Greenblatt, 1980). In a way, it is a critical historical judgement as a way that resonates contemporary concern (Croce, 1970; Cheah, 2005). Hence, alluding from what has been discussed earlier, this paper aims to investigate how a learner perceives the history of Malaysia, as reflected though language and images expressed in creative production. In this respect, this act is a modern reappraisal of the past, as she, a Malaysian, produces work that accentuates certain values and ideas of the post independent citizen, or in Raihanah M.M, Ruzy Suliza Hashim, Noraini Md. Yusof and Zalina Mohd. Lazim's (2011) words, "...will enable the young generation to channel their personal and alternative perspectives of appraising the past and to attend to pressing socio- cultural, political and ideological concerns". This process thus creates the rhetoric of nation-building as the poem created is her personal expression of the public issues that matter to her. As such, this learner will, via her creative text, set herself free from the walls of the public institution of higher education, as she speaks of her concerns on socio-political issues in Malaysia.

*1.3 Relevant Literature for the Study*

It is noted that current culture in creative production has problematized some of the works produced. Indeed, the use of new technology has modernized the way meanings are presented as they are now more liberated. The change in media technology has given way to visual culture where different visual experiences allow "simultaneous experience of visual, audio, verbal data as fluid and easily manipulated"; however, due to the increasing dependence on visual experiences, this culture has been taken as the way of knowing where seeing is almost believing it, as true (Spencer, 2011). In addition, postmodernism rejoices in the fragmentation in arts thereby liberating it from any system of guidance (Barry, 2002).      However, this means that the new experience may not be reliable because they can be reconfigured or recreated. On one hand, postmodernism initiates and liberates the culture of creative production; but, on the other, it may lead to inconsistencies of meaning making rather than the creation of knowledge progression. This affirms the view that the discourse of the contemporary production is the rhetoric of creative innovation. Therefore, this paper argues that there is more to representing reality than the mere integration of multimodal resources. Hence, rather than being attentive to the multimodal composition only, focus will also be specifically given to the hidden or absence in the meanings of the representation of reality in revealing socio-political issues in relation to nation-building. In other words, metaphorical meanings created out of the modes of communication lend credence to the argument at the superficial level; nevertheless, the absence highlights the hidden perception of a learner on nation-building via her creation in the classroom.

*1.4 Milieu of Literary Production: Understanding the Construction*

In a Creative Writing class of e-methods in Literary Production at a public institution of higher learning, a group of learners produced a multimodal digital poetry as a product for the course assessment (Course Proforma, SKBS3133). Prior to production, these learners were exposed to issues of Post-colonialism, especially in Malaysia, that permeate the social, cultural and nationalistic concerns via the literary theories and works produced by local and international authors. To this end, the learners are assumed to be familiar with the basic knowledge on nation-building and the related concepts such as identity, discourse and power. Therefore, when they were asked to create poetry that revisioned an event in the history of Malaysia, symbolic representations of reality were employed to exhibit their creativity. This paper highlights the interpretation of realism by a learner through her reimagining of a monarch from the Malaccan Sultanate, as one of the key players during the downfall of the Malay civilization.

*1.5 Milieu of Historical Accounts: A Glimpse into Sejarah Melayu (The Malay Annals)*

To contextualise the composition of *Revenge,* a discussion on selected events in the *Malay Annals* is relevant. In this classical text, the narrative of the monarchy is on the dynamics of the institution of power because it creatively highlights the manifestation of power relations via the historical account of the Malay Sultanate of Malacca. In the narrative, it specifically tells about the power of the sultan as the *raja* or ruler and the people as the subjects in the Malay kingdom within the time frame of the fifteenth to seventeenth century. This is also a narrative of a Malay *kerajaan* as the Malay working system that highlights the *raja* as the only institution on which the Malay subjects are dependent upon. (Note 1)

The significant ruler and the subject relationship highlights the feudal era via the prince named Sang Sapurba, who represents the raja as the ruler endowed with spiritual and supernatural powers (Note 2) and Demang Lebar Daun, the ordinary people or *rakyat*. This binary relations illustrates the archaic agreement on the practice of power. The king is also regarded as the protector of the people as exemplified in Sultan Muzaffar Shah's words: "the *rakyat* is like the roots, the ruler like the tree; without the roots the tree won't be able to stand upright, that's

how the ruler is with the *rakyat*" (SM: Chapter 9). In return, the king is assumed to be just, fair and protective of the safety and wellbeing of the *rakyat*. These two contrary metaphorical expressions on the practice of power through the *kerajaan* and *rakyat* paradigms manifest the different perspectives on power relations.

## 2. Methodology

Deconstruction is a methodology that analyses the learner's creative work in an unorthodox way. By adopting the Derridean deconstruction to analyse the digital multimodal work, a radical rethinking on the text of everyday linguistic and visual signs of media encounters is proposed. Campbell (2012, p. 106) acknowledges that Derrida's work has been primarily on written text, and proposes that Derridean deconstruction is also visual. This paper however, extends the analysis to multimodality consisting of text and images that make meaning upon their integration. Further, as a product of media technology, this multimodal text becomes a new text known as multimodal digital text.

Because any text is a mere representation, deconstructionists urge us to search for those hidden meanings that are not seen. This approach implores us to deconstruct, that is not to destroy, but to disclose the absence or hidden operation of signs in the text. Absence can be understood as the void of control. Derrida (1976) argues for the absence of centrality thus making the text 'decentred' thus free from any guideline, for instance, the underlying rules or the author's intention in the writing. This is known as a violation to logocentrism as a notion attributing to central meaning making using the prescribed parameter. As a consequence, meanings produced are considered difficult to grasp and indefinite, thus making them slippery. In other words, signifiers of meanings and the expected signified do not correspond as they keep breaking apart. Derrida (1976) argued against traditional and structured sign systems such as de Saussure's (1974) linguistics that depends on structural relationship between signifier and signified which is arbitrary in nature, thus suggesting that linguistic signs represent ideas based on convention and norm as the logo centricity. To Derrida, this is problematic because first, there is no standard rule to refer a signifier to a specific signified; second, meaning making requires the signifiers as a mark to show at what it means. In other words, there is no one proposition that can directly be the reality, as the signifiers are more significant and functional, rather than the signified that is denoted. Hence, a complete and stable meaning making is also not possible as signifiers become free floating signifiers.

To understand meaning making in the text, a deconstruction of the text begins with a method of very close reading, to identify the absence in the composition. This can be discovered through two main readings of the text.

Firstly, deconstruction employs a conventional reading to decipher what the text mean as a representative of reality thus named 'reading with the grain'. This process makes necessary references to the other inbuilt elements such as cultural context or the outlined ideas in the text. Because of that, it may refer to the duality of meanings, e.g. low/high culture, good/evil, etc. The tools of 'salience' that highlight the deviance, and 'framing' that situate the socio-political boundary of the creation are also relevant to enhance the semiotic processes that construct the reality as intended by the designer . This is later put into 'hierarchal opposition' or in Derrida's words, 'violent hierarchy' that contradicts 'the peaceful coexistence of a vis-à-vis… [where] one of the terms governs the other"(Derrida, 1981, p. 41, emphasis mine).

Secondly, deconstruction requires a critical reading or otherwise known as 'reading against the grain' that keenly investigates into wordplay or the use of the signs in the text. This process is antithesis to the one mentioned earlier. . In both stages, the term 'grain' is defined as the presence of the philosophy or the logic of the text that act as the logocentric of the text (Davood & Davoud, 2012, p. 112). Therefore, the interpretation of the text requires the reader to understand what the text infers or proposes that abides to the structure of the text as reality at the initial stage. At a later stage of meaning making, the reader looks into the contradictions and inconsistencies of the meanings as a way to problematize the creation to function as a critique of the text. In other words, any discrepancies in the system of signification becomes the trace of the absence. Indeed, it is in this void of centrality that situates the absence of the text.

In this particular paper, a revisioning strategy that equips the transformation of meaning making is required. 'Reconstructing images and representation' that indicates the selective redesign of creative work as the evidence of social and political leanings is relevant in order to alleviate the process of signification through which the ideology has been obscured (Yusof, 2005). In this paper, the deconstruction of the poem aims to uncover the absence in the reconstructing of images and representation. This takes place firstly, in the transformation-transduction process, where history is reinterpreted into a text of poetic lines that functions as the rhetoric of nation-building, before it is translated into visuals where the semiotic mode of text moves across to visual (Kress & van Leeuwen, 2006; Bezemer & Kress, 2008). The process of transformation and transduction is

then integrated to construct the full signification in the stage of 'reading with the grain'. To highlight its distinctive design, salience and framing are the tools used to mark the deviance and boundaries of signification. This is then followed by 'reading against the grain' where the inconsistencies of meaning are then highlighted in which absence, as the violation of centrality of ideas, is located.

By deconstructing the text, not only are the inconsistencies of the text brought to fore, but the way the text itself challenges the principles of the production, is revealed. This is also where the analyst has the opportunity to challenge the philosophy, privilege and hierarchy that it claims as well as the 'rhetorical operations' it pursues in the discourse (Culler, 1982). In the former process of transformation and transduction of meaning making, the work of rhetoric is scrutinized in terms of the linguistic devices employed in tandem with the analysis of visuals projected to indicate unity of realism. In the latter process, deconstruction becomes a reversal of philosophy used and hierarchy presenting the text as it is a critique of the hierarchy and ideology which suggest the discordance of the text. This has been argued by Derrida (1976) in his "of Grammatology":

Reading…cannot legitimately transgress the text toward something other than it…or toward a signified outside the text whose content could take place, could have taken place, outside of language…[hence] the absence of the referent or the transcendental signified. There is nothing outside the text.

In the excerpt above, though Derrida has focused on the use of language in the text to be deconstructed, his analysis has also ventured into the visual arts through the theme of blindness (Derrida, 1993). This theme similarly works on the idea of absence. In fact, the analysis should examine the play of the meanings in the visual and delay the final judgement of the visual shown until it has further interrogated from within, as mentioned above. Campbell (2012, p. 117) argues that visual deconstructionism is different from visual methodologies as it defers giving an answer, instead it indulges with the complexity of the images. This differentiates multimodal deconstructionist analysis from the others as it locates the absences within the linguistic and the visual; and how these multimodal resources depend on the absence to make sense (Campbell, 2012, p. 120).

## 3. Results

In this study, the right to question is the theme developed out of the learner's metaphorical re-inscription of the characteristics of a selected Malay Sultanate of Malacca. *Revenge* is the learner's representation of reality as a re-imagining of a Malaysian historical artefact. Ideally, any semiotic representation is the trace of the signmaker's distinctive qualities as a show of truth. The connection between the signifier and the signified becomes a symbolic relationship of the designer and his interest (Jewitt, 2009, p. 31). It basically appeals to the designer's interest besides other controlling elements namely the rules and the norms, such as logocentric tendencies that determine one's meaning making. This indicates any meanings that do not comply by the rule and function beyond this western metaphysics is considered different and any attempt to escape this is seen impossible. Nevertheless, being a product of revisioning the past, the work is seen political due to the verbal and visual redesign of a selective narrative in the *Malay Annals* that leads to inconsistency and contradiction of meanings. In other words, the deconstruction of the poem investigates deep into the interpretation and transformation in linguistic and visual signs that function as the rhetoric and semiotics of the multimodal text. At a superficial level of signification, the revisioned poem is the trace of the learner's intended projection of her ideological stand on current issues, nevertheless it is at the critical level that her true perception is revealed.

### 3.1 Reading with the Grain

The learner's subjection to the wordplay of the rhetoric is evident in the reconstruction of Sultan Mahmud Shah's images and representation as a Malay Sultanate of Malacca who rebels, as a style of production. Her re-enactment of the king's representation is a form of contestation of the past narrative in the history. In "Revenge", the learner reconstructs the representation of a sultan named "Sultan Mahmud Syah" in a rhetoric of the accused. The persona is the metaphor of the sultan's spirit lamenting for being accused as a traitor despite his selfless and daring exploits to save Malacca from being colonized by the Portuguese. In a form of argumentation, his Majesty was aghast at the accusation of being a 'coward' (P1, S1, L9, 11)'and 'a traitor'(S1,L14). He came to his own defense as he proclaimed, "They were wrong/I didn't run away!"(S1, L16-17) before defending himself through her verbatim report on how he took on to battle the Portuguese as he was cruelly murdered, "Though in the back/I was stabbed/I was killed" (S2, L5-7). Then again he realized that his death is meaningless as he said, "Till my last breath/But my battle was for nothing"(S3, l25-6).The depiction of a sultan does not match the characteristics as aligned in the classic social contract that it signifies a permutation of semantic as it drifts away from the narrative in the *Malay Annals*. The persona says, "I made up my mind/To rebel over those people/And will continue to......R-E-V-E-N-G-E!!! (S2, L45-7). Sultans as the typical representatives of feudalism is no more

the nucleus of the society as he has been humiliated, marginalized and ironically transformed into the figure of feudal rebellion.

Indeed, her rootless verbal narrative is problematic when the meaning is transferred into another mode of signification. As a consequence, it remains ambiguous because the source of information to explain 'her' deadly injury and the other people's resentment have not been provided by the learner as the designer of the poem.
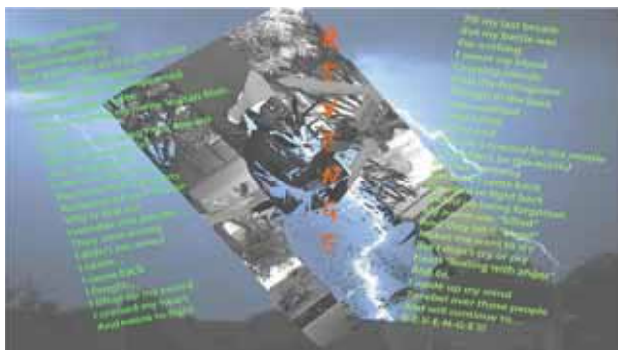


Figure 1. The Multimodal text, *Revenge*

The visual of the poem further tells about the bloody event in which    Sultan Mahmud Shah was in a battle with the Portuguese, the colonizer of Malacca. The image of a person produced in that creative experimental project supports the meanings intended. Here, the idea was framed by the scenario of a dark and gloomy day, marked by heavy rainfall and accompanied by countless flashes of lightning and thunder across the sky. The negative of the real image shown below is diagonally tilted across the page of the image to influence the reader's imagination on the mysticism of the work. The use of visual digitalization has successfully reconstructed the images in accordance to the intent of the creator.



Figure 2. A reenactment of the scene

In the real image of a photograph, 'Sultan Mahmud' is a character played by an Indian lady adorned with a tall, yellow headgear and dusty green baju *Melayu Teluk Belanga* (Note 3)*,* who is shown to have a sharp weapon drawn thrust at others. She is 'injured' as evident from the bloodied 'swords' shoved at her. In a stark contrast, her chosen image in the poetic representation becomes the negative of the positive, as it is technically coloured dull, but was made digitally shiny from the flash of lightning across the lower part of her body. It indicates the blurry perspective on royalty as it almost erases the costume's cultural identification. Meanwhile, the silhouette of the tall headgear seems to indicate a failing and disappearing sign of the monarchy while the weapon does not replicate a *keris, which is* part of the sultan's customary complete style of dressing (Note 4). However, such depiction might be merely the cosmetics of the cultural manipulation, which can be a pompous mimic of the reality.

In *Revenge*, the powerful rhetorical language and semiotics employed is so dominant that it suggests the

metaphorical conceptualization of the ruler's predicament. It does not represent Sultan Mahmud Shah as a celebrated hero, but a victim of circumstances. In this poem, the learner seems intent on articulating her concern on the tragedy of a fallen ruler in a dramatic manner.

*3.2 Reading against the Grain*

At this stage of reading, the learner's experimental court narratives that highlight the wordplay of the rhetoric signifies the concept of absence in meaning making. Absence, as earlier noted, is the effect of challenging the idea of western metaphysics – presence. This can be discovered through the inconsistencies of meaning making created by both semiotic modalities, language and the visual.

The crisis of emotional turbulence is observed in the poetic lines set to express the amok perspective. As suggested in 'reading with the grain' above, the fluctuating of emotions from denial to submission and finally, to reaction is the mind of an amok. As claimed by a Malay scholar, "Amok represents the external physical expression of the conflict within the Malay...a final and complete escape from reason and training" (Mohammad, 1994, p. 118). This is evident in the learner's rearrangement of the rhetoric where her verbal and visual expressions indicate thoughts that are unstable, uncertain and irrational. First, her use of interrogatives or questions in the rhetoric of nation-building is a show of disavowal that invites the readers to empathize with his misery, "Why do they say so? /Am I a coward???/... Why is that so?"(S1, L10-11, L15). The stress reflected in the use of emphatics, as shown in the exclamation marks, "I didn't run away!" is further enhanced by the use of ellipses to symbolize pensive thought, "I wander and ponder.../I came.../ I fought..."(S1, L17-19) leading to the conflicts of the story. The use of anagram emphasized with exclamation marks "R-E-V-E-N-G-E!!!" indicates the climax on the release of suppressed emotion. Such representations could be to express and emphasize the rather unsettled state of mind, possibly due to the rush of adrenalin, accompanied by an exhibition of anger. What may be observed too are the changing signs from markers of denial to signs of contemplation and finally, the signs of action. The learner's creative reconstruction from different perspectives suggests her hidden perspectives. In this poem, the learner as the producer, has simultaneously become the persona of the anguished sultan. In her denouement of the narrative, she or Sultan Mahmud Shah is intended to be similarly represented as the amok who rebels to express personal grudges against the unknown enemy.

Further analysis of the visuals used showed a result of transduction process, which is another failing process of meaning making. The visual showed an image of an amok, who is armed with a weapon and attacking innocent people (Winzeler, 1990, p. 97). However, the confusion over the social status of the persona arises due to his colourless headgear and the dress worn. These aspects are the determinants of power that exist in the Malay community (Note 5). Because they remain clueless and groundless, these images do not contribute to a stable and centralized meaning making as the control entity that guides the creative production. The disfigured and culturally flattened signifier of the tengkolok as the headgear, for instance, has blinded the signified in the construction meaning. Because of that, the signifier remains as isolated entity that remains floating thus meaning becomes ambiguous.

## 4. Discussion

Re-visioning history is one credible approach to the discovering of one's perception of past events that is un-shown or unsaid. It is, in other words, a show of a hidden paradigm. Further, this can be done through poetry, and according to Rich (1980, 2005), poetry can become the critical appreciation of the past, exhibiting the sociopolitical nuances of reality. In other words, a learner-poet may impose her embedded ideology in the representation of her subjective choices in the poem rather than having the poem as a medium of a mere emotional expression. In addition, the learner's refashioning of the work, as highlighted by Greenblatt (1980), has diverted the reading of the creative production from the narrative on sultanate power in the Malacca in 15th century as in its traditional narrative of the event. In fact, this refashioning, has become the avenue for the learner's perception of the rhetoric and semiotics of socio-politics of Malaysia, and her participation in the contemporary aspiration of the young generation (Croce, 1970). It is also interesting to note that in the poem, Sultan Mahmud Shah, who is known for being an emotional and reckless Sultan of the Malay sultanate of Malacca, has been transformed into a pitiful, yet dangerous character. It is worth-noticing as the Sultan was wielding much power and not 'pitiful' but yet the re-visioning has made him so. What is obvi  ous here is that in re-visioning the past, the creative production is not censored or controlled by any external entity. As such, the learner-poet utilizes her integration of the rhetoric and the visual meanings as a trace of her perception on the socio-political issue in nation-building to indicate the absence of cultural and historical texts. What is covertly missing might indicate what is meant. Indeed, in the analysis, the tyrannical Sultan Mahmud Shah is encapsulated as a victim by discourses of logocentrism as the accepted way of thinking and practices to power

usage (Murfin & Ray, 1998, p. 365). This suggests the negotiation on the boundaries of identity as a way of empowering the sign-maker through the language and visual used take place, which is also empowered by other discourses such as media and literature.

In analyzing the poem, the sign systems have been alluded to distinctive manners of meaning making. The poem, designed in multimodality symbolizes the symbolic discourse of reality as it is connected to the designer's interest (Kress, 2010, p. 62). This integration of multimodal meanings happens in two ways. First, it is verbally fashioned upon the creator's' style as evidenced in her choices of the signs to be used and in so doing, she assumes the role of the transformation agent at work, imbued with the freedom of expression. This means that the new design takes into consideration the social context and the complication of meaning making upon individual choices as it lays as the foundation to social semiotic system of signification (Kress & Hodge, 1988). Hence, this transformation is not a typical change as it innovates traditional representation in interaction that theoretically operate on similar entities but divergent structure or arrangement (Bezemer & Kress, 2008, p. 175). Second, meanings produced in the transduction further complicate the process of meaning making. It does not lead to a 'recontextualization' (Beinstein, 1996, p. 64) where original discourses are reshaped to fit in the intended meanings in disguise; instead, the poem chosen problematizes meanings through its metaphorical representation. As claimed by Pink (2004, p. 10), visual interpretation becomes the 'poetic processes' that 'encourage the use of metaphor and the emphatic communication of knowledge and experience', the experience that cannot be achieved via the sole use of language. This cuts across the semiotics of Saussurean linguistics on the arbitrary signifier-signified relationship where meanings are unmotivated by creator's interests. In other words, language used may represent the subjective ideas posed by the designer to signal her sense of individualism and liberalism; nevertheless, the visual chosen complement the meanings created in such a way that it anchors the signifier of idea to that of knowledge.

Nonetheless, this study shows that the visual and verbal produced are the contested representative of the reality in the contemporary world. The signs produced signify a broken semiotic relationship which do not succeed to define the process of meaning making. Baudrillard (1983) argues that as the signifier-signified connection is lost, the reconstructed images do not represent reality due to the lacking of reference and objectivity. Instead, hyper-reality is achieved that is through the distortion, disguise and finally replacement of the real image (Baudrillard, 1983). The semiotic systems of the poetic meaning making closely resemble hyper-reality because the traditional ruler's image is chosen, altered and eventually substituted with the image of the reenacted character in a scene. The adapted use of experimental digital photography technique further complicates the revisioned representation as it further alters the visual. In other words, the signifier does not meet the signified, thus it is kept floating. A similar failure in meaning making is observed in the language construction of the poem. There is no effort to combine the short disjointed phrases on fluctuation of emotions, which lead to a disunified narrative. In such a case, reaching a universal truth or constructing a 'fact' as the basis of reality using language is questionable. What is present can merely make up the absence of the real. As such, the signs produced is of postmodernism, free from any influences or guidelines and becoming the way of knowing (Spencer, 2011; Barry, 2002). This creates a blurring identity of the designer whose work signifies her indefinite sense of self as she poses her right to question issues of concern.

The analysis has also revealed the real absence of cultural and historical elements, which should be relevant to the understanding of the historical events during Sultan Mahmud Shah's *kerajaan*. The learner's reconstruction of the discourse highlights the absence of cultural and historical representation thus signifies socio-political issues, or in Madan Sarup's (1986, p. 32) words, hidden of meaning are "made out of what it is not". In *Sejarah Melayu*, it was narrated that the king, as an orphan, was installed as the sultan when he was still small, hence the administration of the state was controlled by the court officials. However, he was wrongly guided by these officials. For instance, he was taught by Seri Maharaja to be cruel and insensitive to the rakyat when he to impose the death sentence on a minor offence committed by a *rakyat* (SM, 139). As such, his poor upbringing led him to become as a person with low character, harsh, impulsive and even a womanizer. In effect, these traits exemplify the failure of the court officials in moulding him to be an exemplary and much respected sultan. However, this case in history is an isolated case which does not represent the whole sultanate of Malacca as the *kerajaan* of the time. This is an absence of the historical element in the learner-poet's narrative that is revealed through the analysis.

The absence of a cultural element is also discovered from the deconstructionist reading of the learner's text. Conflicting points of view on the ruler's sovereignty and the relationship with the people as the concern of the *rakyat* are evident in the learner's contemporary creation. The power of kerajaan (Note 6) can be observed as a top down class paradigm where the perpetuation of power comes from the traditional Malay sultan onto his

subjects, notwithstanding their origin. This ruler-ruled absolute obedience and loyalty are regulated by the Malays culture and anyone who does not adhere to this will be regarded as a traitor (*derhaka*). Added to this, the sultan also assumes the democratic role as a protector, symbolized by a tree and having a symbiotic relationship with the roots which represent the ruled or the masses. This myriad of definition on power becomes bilateral official relationship of the ruler and the ruled or *rakyat,* which in return*,* taken as the *wa'adat* or social contract in the traditional Malay polity; a politics of the past that is still relevant until now.

A similar and interesting observation on this bilateral connection has been articulated by Abdul Rahman (2014, pp. 67-77), who proposes the *rakyat* (Note 7) paradigm as the analytical construct to meet the current interest of contemporary communication, that is more of individualism, yet can tap into multiethnic society of Malaysia. This is strongly related to transformation on the redefinition on the idea of sovereignty due to the social and political awakening of the *rakyat* as the citizenry of Malaysia being the voting power that determine the democratic polity in Malaysia (Embong, 2014, p. 76). Henceforth, this paper suggests the supremacy of the *rakyat* as the learner's paradigm on the issue of nation-building. The choice of Sultan Mahmud Shah as a creative reconstruction of the past is symbolically taken as the *rakyat's* examination into the exertion of power and behavior of a ruler. Because today's Sultanate of Constitutional Monarchy is the surviving tradition of Malacca (Bari, 2012, p. 63), the learner' poem on a selective Malaccan sultanate and other symbolism is the emblematic of her appraisal of Malay Sultanate's symbolic power. Therefore, the learner's revisioning of the past via the multimodal work becomes her social platform to express her personal perspective of interest on the issue of nation-building in Malaysia. This is another void in the poem because cultural element has been camouflaged by the emotional expression by the persona.

In short, this paper proposes to contest the knowledge construction of a micro practice of a learner in a classroom that leads to the critical evaluation of a learner's ideology, namely the idea of a Malaysian citizenry. Revisioning history is seen as a practice to facilitate the projection of the power of literary discourse produced upon the design at postmodernism. This can accentuate certain avenues of resistance thus becoming the channel for the powerless and marginalized citizen to challenge the convention which may not possible elsewhere (Foucault, 1980). Indeed, linguistic and visual semiotics has been accepted as the representation of reality, nevertheless, by adopting Derridean deconstruction of the text to analyse the text in depth, the hidden historical and cultural elements reveal the absence of cultural and historical elements that mark the learner's socio-political issue on nation-building. The learner's creative re-appraisal within the *rakyat* paradigm as the contemporary idea on democracy indicates matters on the socio-polity of Malaysia, which is the concern of all people, regardless of ethnicity. This learner has also revealed her 21st century thinking, which upholds the importance of human rights to ethical self-expression and justice among all human beings. Interestingly, the analysis also reveals the lacks in the learner, that she is not well informed of certain historical facts that are relevant to the understanding of an important historical figure in the days of the Malacca Sultanate. To sum up, these are the insights on socio-political issues discovered through the deconstruction of the rhetoric and semiotics of a multimodal digital poem, *Revenge*.

## Acknowledgements

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**Notes**

Note 1. Milner (1982:113-14) emphasizes the total reliance of the Malays onto the ruler as the sole institution through which their "…position in this life and the next depended on the Raja; he was the bond holding men together, and the idiom through which the community experienced the world…[this] political life could be subsumed under one term: men constituted themselves to be living not in states or under government, but in *kerajaan*, in the condition of having a Raja".

Note 2. The feudal images are represented by the king as a godly figure (raja) in accordance to Hindu-Buddha tradition as well as the chosen one in Islamic doctrine connotes their sovereignty of spirituality and supernatural

power (Syed Ali Husin, 2013, p. 4).

Note 3. Baju Melayu Teluk Belanga, a type of Baju Kurong, has been inspired by Sultan Abu Bakar in 1866 as a commemoration of Teluk Belanga, as a center of Johor administration before (Zuraidah Shawal, 1944, p. 30). This male dress has no collar, was pulled over the head and reached only to the waist (Mubin Sheppard, 2011:126). For the royalty, the short sarong (kain samping) is worn on top of the dress (berdagang luar), whereas the commoners wear it underneath (Siti Zainon Ismail, 2006, p. 139).

Note 4. Costume is defined as a complete set of dressing, including all the clothes accessories, etc.(Geddie 1961:339 in Siti Zainon Ismail, 2006). It is also known as customary dress because it relates to the social value and adat (Ismail, 2006, p. 29). Keris is one of the customary costume (Malay Annals:95).

Note 5. This is highlighted in the classical text, Sejarah Melayu (SM:82). It was narrated that Sultan had "laid down the custom and protocol of the kingdom". The custom includes the dressing code, among all that highlight yellow should be colour of the royalty's clothing and golden sheath is only for the royalty's keris.

Note 6. *Kerajaan* is a concept that works on the personal relationship between ruler and subject (rakyat), and not with a specific race (Milner, Abdul Rahman & Tham Siew Yean, 2014, p. 8)

Note 7. *Rakyat* is a concept that has been used since the precolonial feudal period that indicates the hierarchal subject-ruler relationship, though regardless of their ethnic origin. It has evolved ever since after independence in 1957, with the transformation of kerajaan system into constitutional monarchy, rakyat is now known as citizenry with the constitutional rights irrespective of ethnic, religious and socio-economic background (Abdul Rahman Embong, 2014, p. 61).

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# Style of Pottery Products of Ban Tao Hai in Phitsanulok Province

Sanit Phinsakul[1], Nirat Soodsang[1] & Niwat Pattana[2]

[1] Department of Art and Design, Faculty of Architecture, Naresuan University, Phitsanulok, Thailand

[2] Ceramics Department, Faculty of Industrial Technology, Pibulsongkram Rajabhat University, Phitsanulok, Thailand

Correspondence: Sanit Phinsakul, Department of Art and Design, Faculty of Architecture, Naresuan University, Tapho Sub-District, Amphur Mueang, Phitsanulok, Thailand. Tel: 089-643-8711. Fax: 055-28-2792. E-mail: sanit17@hotmail.com

## Abstract

The objective of this research was to investigate the history and analyze the style of pottery products of Ban Tao Hai in Phitsanulok province. The research procedure took on documentary study appeared with the stories of pottery products of Ban Tao Hai, and explore pottery products of Ban Tao Hai in the museums and those discovered in Phitsanulok province. Data analysis focused on the history, styles, decorative patterns, and marks or symbols observed. Research result demonstrated that the pottery products of Ban Tao Hai were located in the ancient kiln sites at Ban Tao Hai currently situated in the area of Ta Pakao Hai temple and Ta Pakao Hai school at Hua Raw sub-district, Amphur Muang, Phitsanulok province. It is a cluster of large kilns stacked up and lined up along the Nan River, the kilns with high-technology. The products were either earthenware or large stoneware such as jars, jugs, basins, and bowls. According to the survey and excavation on 2 April 1984 by the regional Office of Fine Arts of Sukhothai and Phitsanulok, a stack of 2 kilns was discovered, i.e. the brick-built crossdraft kilns in similar sizes called Phitsanulok Kiln 1 (PK.1) and Phitsanulok Kiln 2 (PK.2). Ban Tao Hai pottery products that the researcher found were kept in the museum and in the community, altogether 80 pieces. Most of them were not in perfect condition, and only some with perfect condition were in good storage. These 80 pieces were in 6 categories: 1) wide-mouth jar, 16 pieces; 2) flaring-mouth jar, 17 pieces; 3) basin, 2 pieces; 4) round-bottom pot, 3 pieces; 5) jarlet, 33 pieces; and 6) mortar, 9 pieces. Among them, 17 pieces were decorated with applied spiral design (Lai Kod Hoi) so called "Lai Ou", 27 pieces with excised and impressed designs, and another 36 pieces were undecorated. They comprised 26 glazed and 54 unglazed pieces. One of the unique features of Ban Tao Hai pottery was the marks or symbols made by the potters on the body of workpieces. The study revealed 22 marked and 54 unmarked pieces of pottery.

Keywords: style, Pottery, Ban Tao Hai, Phitsanulok province

## 1. Introduction

Wisdom provides the root of the unique Thai-ness that represents nationhood and serves as an important tool to the development of the nation. Applying wisdom to local development thus effectively reinforces and strengthens the nation. The term local wisdom has been widely used in the society by both the public and private sectors. The term also overlaps with some other terms such as local knowledge, villager wisdom, popular wisdom, folk knowledge (Princess Maha Chakri Sirindhorn Anthropology Centre, 2005). Arts and archaeology are considered types of local wisdom that refer to something created by human for aesthetic purpose that offers psychological value of beauty or functionality, and to communicate the belief particular group of people, which include such as painting, sculpture, architecture, handicrafts, and archaeology (Choibamroong, 2011). Pottery signifies Thai local wisdom which has long been produced since the ancient time and became another type of the object well representing archaeological evidence. Thai pottery with its uniqueness can be observed in such as Sangkhalok wares from the kiln sites in Sukhothai period with supported evidence as exported goods during that time. Thai pottery also told stories and lifestyles of people who possessed them in each period (Hongwiwat, 2011). Phitsanulok is an important provincial center for transportation in lower northern Thailand. It also serves as the center of Indochina Intersection development zone, with tourism potentiality for its diversity of natural, historical, and cultural sites (Phitsanulok Office of Provincial Development, 2014). Moreover, Phitsanulok houses a number of significant kiln sites of the past, one is known as Ban Tao Hai situated on the east bank of

Nan river, at Hua Raw sub-district, Amphur Muang, Phitsanulok province, which is now called Ta Pakao Hai Temple. The archaeological excavation by the Department of Fine Art in 1984 revealed that Ban Tao Hai was a large industrial site (Jaemkhuntian, 1993). The prominent feature of Ban Tao Hai stoneware vessels is in the clay with well-preparing process. The most common vessels found were wide-mouth jars with ring-shape lugs, followed by flaring-mouth jars or flaring-mouth pots. All of them were made by wheel throwing. The unglazed pieces were decorated with beautiful applied design called "Lai Ou" by forming the clay into thin thread coiled in spiral shape on one end and applying around the jar's neck and shoulder. Besides, the potter's marks or symbols were also found on the work pieces of pottery to represent something. There were as many as 137 pictorial marks altogether found and the dominant ones were the pictures of deer in a circle, sword, leave, and cross in a circle. They may represent the potters or manufacturing sites which make them very interesting since the patterns on Thai pottery made by other sites were all for aesthetic purpose not as trademarks or manufacturer marks (Sangkhanukit, 2002). Today, the community people in Ta Pakhao Hai, local organizations, and educational organizations focus on the preservation and development of these artistic and cultural kiln sites at Ban Tao Hai to be widely known as tourist spot and as the learning sites of community. In the researcher's view, the precise investigation on such as the history, origin, shape, and style of decoration and pattern are very important as they offer evidences on the community's body of knowledge with respect to Ban Tao Hai pottery.

The researcher therefore conducted this research to explore the styles of pottery products of Ban Tao Hai in Phitsanulok province through the analysis of history, styles of pottery, decorative patterns and marks on the products so as to suggest guidelines for further development of creative process and styles of Ban Tao Hai pottery products of Phitsanulok. This will promote the artistic and cultural preservation and sustainment of Ban Tao Hai pottery which had been prospered in the past.

**2. Research Objective**

To investigate the history and analyze the styles of pottery products of Ban Tao Hai, at Hua Raw sub-district, Amphur Muang, Phitsanulok province.

**3. Research Scope**

This research explored the history and styles of Ban Tao Hai pottery by means of investigating the following documents, evidences, and the work pieces of antiques to obtain relevant information.

1 Evidences as documentary and printed materials

(1) Report documents on the Fine Art Department's excavation in 1984.

(2) Printed materials appeared with the stories of Ban Tao Hai pottery and the documents discovered in Phitsanulok province.

2 Evidences investigated from the original pieces of Ban Tao Hai pottery which comprised

(1) Ban Tao Hai pottery pieces in the national museum (central storage) at Klong Ha sub-district, Klong Luang district, Pathumthani province.

(2) Ban Tao Hai pottery pieces in Phitsanulok province.

**4. Research Procedure**

In the investigation of pottery products of Ban Tao Hai, Hua Raw sub-district, Amphur Muang, Phitsanulok province to capture information on the history and styles of pottery products, the researcher implemented the research steps described below.

1 Investigating the report documents of the Fine Art Department on the excavation in 1984, printed materials appeared with the stories of Ban Tao Hai pottery and the documents discovered in Phitsanulok province.

2 Examining the pieces of pottery products of Ban Tao Hai in the national museum, and those in the local museum of Ban Jatawee and in Ta Pakao Hai temple, as well as those discovered in Phitsanulok province.

3 Taking photographs, measuring for width and height of the discovered pottery pieces, decorative patterns, marks on the pieces, and making notes.

4 Analyzing and categorizing the obtained information to identify the history, styles, decorative patterns and marks on pottery pieces.

**5. Research Result**

In conducting this research, the researcher undertook the field visits in person to collect the data starting from the documentary search to the interviews and inquiries about the history with local sages, local community people,

and older people. The following information on Ban tao Hai pottery was obtained and the summary result of analysis was presented in 6 parts.

Part 1 History of Ban Tao Hai pottery

Ban Tao Hai pottery products were found in the ancient kiln sites of Ban Tao Hai currently in the complex of Ta Pakao Hai and Ta Pakao Hai school at Hua raw sub-district, Amphur Muang, Phitsanulok province. It was a large group of kilns stacked up and lined up along the bank of Nan river. They were with high technology. The products manufactured here comprised both the earthenware and large sized stoneware such as jugs, jars, basins, bowls (Industrial Finance Corporation of Thailand, 1995). The Third Regional Office of the Fine Art Department of Sukhothai, and Phitsanuloke had surveyed the kiln wrecks and discovered about 40 - 50 kilns or may be as many as 100 kilns. The excavation on 2 April 1984 (Sangkhanukit, 2002) at the deepest level of 3.5 meters found a stack of 2 kilns.They were the brick-built crossdraft kilns in similar sizes and were called Phitsanulok kiln 1 (PK.1) and Phitsanulok kiln 2 (PK.2). The excavation revealed as many as 140,000 pieces of antiques discovered. The kilns were in general shape similarly to those found in Sukhothai and Si Sachanalai. Almost every part of the kiln inner wall looked like brown-glaze as a result of melting brick surface due to high temperature mixed with the blown wood aches that formed the glaze. Most of the earthenware was discovered in the accumulated soil horizons, while most of the stoneware was found in the subgrade soil horizon, i.e. with the working kilns. Most of the earthenware pieces were tall-shaped jars, round-bottomed pots, wide-mouthed jars, decorated with impressed or paddle-stamped designs in many styles either only on the neck, from the body to the neck, or all over the work piece. The discovered stoneware pieces were in different sizes from small one of 3-4 cm. in diameter to the large one of 80 cm. tall. The most common pottery pieces found were wide-mouthed jars with ring-shaped lugs, followed by flaring-mouthed jars or flaring-mouthed pots, all were made by wheel-throwing. The decoration included such as applied spiral design, excised designs, paddle-impressed or stamped designs. Mortars were also commonly found in a variety of styles (Sangkhanukit, 2002). For stoneware, the clay used were from fine preparng process, and after burning it turned gray and red-purple. Some of these pieces were brown slipped. Most of them were made as food jars. The vases were in similar style as those produced at Koh Noi, i.e. with unglazed neck, and "Lai Ou" on the shoulder. Large unglazed vases were decorated with impressed designs as found in those of Suphunburi province (Shaw, 1993).



Figure 1. The shelter covering the kilns (left) and under it, the shape of the kiln (right)

Another distinctive characteristic of Ban Tao Hai pottery was potter's marks or symbols on the workpieces that signify something. The marks appeared were altogether 137 designs: 103 on stoneware and 34 on earthenware vessels. These marks can be categorized by the tools used including 56 marks by impression or stamping with designed paddles, 26 marks by excising tools, and another 55 marks were all made by fingers and nails. The impressed or paddle-stamped designs were most common in geometric, globular, triangular, and rectangular shapes, and the dominant pictorial designs were deer in a circle, sword, leave, cross in a circle. Other designs were stars, and overlapping circles which possibly represent the rowel or the sun. It was observed that these vessels were made from the same kiln site, with the same potter and the same type of clay. The patterns and marks found may refer to the potters or the manufacturing sites from which the products were sent to the kilns in the same neighborhood. Considering the globular shaped seal, it looked similar to the design in silver photduang coins in the Ayutthaya period, and some looked like those designs by Chinese and Japanese potters though not that clear. The leave, deer, wheel or rowel designs may come from Buddhist belief. The marks representing potters or manufacturing sites or trademarks were very interesting since all those patterns on Thai pottery

products manufactured in other sites were intended for aesthetic purpose not as trademarks or for manufacturing sites as obvious as in here (Sangkhanukit, 2545). At present, these ancient kilns were covered under the shelter built by the Fine Art Department to protect them from the damage by nature as in Figure 1.

Part 2 The number of discovered pottery pieces of Ban Tao Hai

The researcher found altogether 80 pieces of Ban Tao Hai pottery and most of them were not in complete shape but chipped and damaged and some were only in fragments. Some of them were in complete shape and in good storage by the possessors. These workpieces can be divided by 7 storage sites and possessors as follows.

1. Wat Ta Pakao Hai, Hua Raw sub-district, Amphur Muang, Phitsanulok province, 36 pieces or 45%.

2. Ta Pakao Hai School, Hua Raw sub-district, Amphur Muang, Phitsanulok province, 9 pieces or 11.25%.

3. National Museum (Central Storage), Klong Ha sub-district, Klong Luang district, Pathumthani province, 1 piece or 1.25%.

4. Folk museum Ja Tawee at 26/138, Wisutkasat Road, Amphur Muang, Phitsanulok province, 6 pieces or 7.50%.

5. Ceramics Department, Faculty of Industrial Technology, Pibulsongkram Rajabhat University, Plaichumpol sub-district, Amphur Maung, Phitsanulok province, 12 pieces or 15.00%.

6. Instructor Sa-Ing – instructor Bang-Orn Footem, 297 Moo 5, Ratsatthatham Road, Hua Raw sub-district, Amphur Muang, Phitsanulok province, 12 pieces or 15%.

7. Acting second lieutenant Pornchai Chunha, Chief of Welfare Promotion, Hua Raw Sub-District Municipality, Amphur Muang, Phitsanulok province, 4 pieces or 5%.

Part 3 Styles of Ban Tao Hai pottery

The investigation of Ban Tao Hai pottery products revealed 6 styles of the workpieces: 1) wide-mouth jar, 16 pieces or 20%, 2) flaring-mouth jar, 17 pieces or 21.25%, 3) basin, 2 pieces or 2.5%, 4) round-bottom pot, 3 pieces or 3.75%, 5) jarlet, 33 pieces o 41.25%, and 6) mortar, 9 pieces or 11.25%. Examples of the workpieces in each style were displayed in Figures 2-7.



Figure 2. Wide-mouthed jar with lugs         Figure 3. Flaring-mouthed jar



Figure 4. Basins            Figure 5. Rounded bottom pots

Figure 6. Jarlets                                        Figure 7. Mortars

Part 4 Decorative patterns on pottery products of Ban Tao Hai

Ban Tao Hai pottery products found were either decorated or undecorated. The decorated ones were applied with many patterns on one workpiece such as spiral design called "Lai Ou", excised and impressed designs. The spiral design found was in 2 styles: inward spiral as in Figure 8, and outward spiral as in Figure 9. Based on the investigation, the summary of decorative patterns on the pottery products is as follows: 1) applied, excised and impressed designs, 17 pieces or 21.25%; incised and impressed designs, 27 pieces or 33.75%; and undecorated, 36 pieces or 45%. Examples of pottery products with each of the above decorative patterns were shown in Figures 10 and 11, and those without decorative pattern were in Figure 12.



Figure 8. Applied design "lai Ou" with inward spirals        Figure 9. Applied design "lai Ou" with outward spirals



Figure 10. Flaring-mouthed jar decorated with applied design, excised and paddle-impressed designs



Figure 11. Round-bottomed pot decorated with incised and paddle-impressed designs

Figure 12. Small jarlets without decorative pattern

Part 5 Glazes on pottery products of Ban Tao Hai

According to the investigation of Ban Tao Hai pottery products, there were 26 glazed pieces or 32.50 % and 54 unglazed pieces or 67.50 %. The examples of glazed pieces were shown in Figure 13, and unglazed pieces in Figure 14.



Figure 13. Glazed pieces of Ban Tao Hai pottery products



Figure 14. Unglazed pieces of Ban Tao Hai pottery products

Part 6 Marks on pottery products of Ban Tao Hai

The distinctive feature on the discovered pieces of Ban Tao Hai pottery was the potter's marks in a range of designs such as those made by impression with seals, excision, and impression with fingernails. Exploring of the pottery pieces suggested that 22 pieces or 27.50 % were with marks, and 58 pieces or 72.50 % were without marks. Figures 15 – 17 presented the examples of different marks on pottery products of Ban Tao Hai



Figure 15. Seal-impressed marks on the pottery products of Ban Tao Hai

Figure 16. Excised marks on the pottery products of Ban Tao Hai



Figure 15. Fingernail-impressed marks on the pottery products of Ban Tao Hai

## 6. Discussion

Based on the analysis, the researcher discussed the results in the following 6 parts.

Part 1 History of Ban Tao Hai pottery

The pottery products discovered were at the ancient kilns of Ban Tao Hai currently in the complex of Ta Pakao Hai temple and Ta Pakao Hai school, in Hua Raw sub-district, Amphur Muang, Phitsanulok province. The Third Regional Office of the Arts Department Sukhothai and Phitsanuloke provinces had surveyed the kiln ruins and found about 40-50 kilns or may be as many as 100 kilns, and the excavation was conducted on 2 April 1984. (Sangkhanukit, 2002) The researcher's opinion agreed to those of the academicians who surveyed the kiln sites and expected there were many kilns around this area. During the researcher's field visit to survey and interview with many local community people, it was observed that a large number of pottery fragments and the debris of the kiln bricks were there at the bank of Nan river. The Fine Art Department's excavation discovered a stack of 2 kilns, brick-built crossdraft kilns in similar sizes, called as Phitsanulok kiln 1 PK.1) and Phitsanulok kiln 2 (PK.2).Moreover, as many as 140,000 pieces of antiques were also found. At present, these ancient kilns were covered under the shelter built by the Fine Art Department to prevent them from the damage by nature. Ban Tao Hai kilns were in a group of large kilns with high technology. The pottery produced here were both the earthenware and stoneware. The earthenware included tall cylinder-shaped jars, round bottom pot, wide-mouthed jar, and decorated with impressed or stamped patterns. The most common stoneware included wide-mouthed jars with ring-shaped lugs, followed by flaring-mouthed jars or pots decorated with applied spiral design, excised, impressed or stamped designs. Another type of vessel commonly found was mortar in a range of designs and styles (Sangkhanukit, 2002) As the academicians' excavation revealed, there were a lot of mortars in a range of styles and sizes, as the mortar is a kitchen utensil traditionally used by Thai people since the ancient time and is still in use in many households in the present-day. The researcher believed that at this Ban Tao Hai kiln site, the mortars were produced for the use in large community or for selling in other communities. Similarly to those academicians, the researcher investigated and found mortars in a variety of styles and sizes and assumed that they may be made by many potters in this kiln site. For the discovered stoneware, the clay used were from fine process of preparation, and they turned gray and red purple from burning. Some of stoneware vessels were brown glazed. Most of them were made as jars for food. The vases were in the same style as those produced at Koh Noi, i.e. with unglazed neck, and "Lai Ou" design on the vase shoulder (Shaw, 1993). It was found that Lai Ou decoration on the pottery products investigated by the researcher appeared only on the flaring-mouthed jars but not on other styles of products. In view of the researcher, it was expected that flaring-mouthed jar would be expensive in the ancient time or used among the royalty or possibly used in relation to rituals and belief. This would require further investigation for evidence in the future. Another distinctive feature of Ban Tao Hai pottery was the potter's marks or symbols that signify something. As found by academicians, there were altogether 137 designs of marks. The most common design was picture contained in geometric forms like circle, triangle, and

rectangle. The most visible pictorial mark and mostly found was deer in a circle, sword, leave, and cross in a circle. The deer mark and wheel or rowel marks may come from Buddhist belief. The researcher agreed to Prachote Sangkhanukit (2002) who noted that the motif or personal mark or manufacturer mark may be the trademarks. It may be possible since the patterns on Thai pottery products at other sites were all made for aesthetic purpose not as trademark or for manufacturing site as evident at this Ban Tao Hai site. Moreover, many patterns or marks discovered by academicians as well as by the researcher in this research should provide evidences to support that this pottery manufacturing site at Ban Tao Hai certainly once was a large industrious site in the past.

Part 2 The pottery products of Ban Tao Hai discovered by the researcher were totally 80 pieces and most of them were not in perfect condition but nicked and damaged and some were only in fragments of the workpieces. However, some of them were in perfect condition and in good storage by the possessors. Most of them, i.e. 36 pieces were under the possession of Ta Pakao Hai temple. The reason many pieces of pottery products were found here because they were collected and in good care of the temple's abbot and monks as the temple is the center where community people gathered and it covers a large area including the ancient kiln site of Ban Tao Hai on the east bank of Nan river in Phisanulok province. (Thampridakorn & Pinsri, 1990) People who picked up the pottery pieces usually handed them to the temple for educational purpose by successive generations. Besides, people here believed in the sacred things in the temple so they dare not to keep these workpieces at home.

Part 3 Styles of Ban Tao Hai pottery. The current study suggested the style of Ban Tao Hai pottery in 6 categories: 1) large-mouthed jar; 2) flaring mouthed jar; 3) basin; 4) round bottomed pot; 5) jarlet; and 6) mortar. Among these pottery pieces, the most common were jarlets for as many as 33 pieces or 41.25 %, and the least common were basins for only 2 pieces or 2.50 %. All of these 6 categories of pottery discovered by the researcher corresponded to the pottery styles reported by Hein, Don and Sangkhanukit, Prachote, (1987) in their excavation on 2 April 1984, and also agreed to the Fine Art Department (2009) indicating that the major workpieces of stoneware found at this kiln site were jars, basins, and mortars.

Part 4 Decorative patterns on pottery products of Ban Tao Hai. As reported, Ban Tao Hai pottery included the workpieces both with and without decorative patterns. The decorated ones displayed a combination of different designs on one piece. For example, flaring-mouthed jars were decorated with applied spiral design called "Lai Ou", along with excised and paddle-impressed designs. Some of the pottery pieces such as round-bottomed pots were with excised or paddle-impressed designs. This investigation was consistent with John Shaw's (1993) suggesting that among the pottery products of Ban Tao Hai, the earthenware were decorated with rough incised patterns or impressed patterns, while most of the stoneware products were made as food jars with "Lai Ou" decoration on the shoulder.

Part 5 Glazes on pottery products of Ban Tao Hai. The study found either glazed or unglazed pottery products of Ban Tao Hai. Out of the total 80 pieces discovered, the glazed ones comprised 26 pieces or 32.5 % of flaring-mouthed jars and small jarlets, with brown to back glazes. The unglazed ones were such as wide-mouthed jars, basins, and mortars for 54 pieces or 67.50 %. These agreed to Prachote Sangkhanukij (2002) reported that some of the stoneware pottery products of Ban Tao Hai were glazed in black and gloomy olive colors.

Part 6 Marks on pottery products of Ban Tao Hai. Another unique feature of Ban Tao Hai pottery was the potter's marks or symbols on the bodies of work pieces. The investigation revealed that the marks appeared on 22 pottery pieces or 27.50 % of all pieces. These marks included seal-impressed, fingernail-impressed, and linear excised designs, for example. Regarding the representation of these marks or symbols on the discovered pottery workpieces, the researcher shared the view with those academicians, Hein,Don and Sangkhanukit,Prachote (1987) proposing that marks on pottery products may communicate the Buddhist belief. These potter's personal marks or possibly the trademarks are very interesting since the decorative patterns on pottery products made by other manufacturing sites were all aesthetic intended but not as trademarks or represented manufacturing sites as evident at Ban Tao Hai pottery site.

## 7. Conclusions

Based on this investigation of history and styles of pottery products of Ban Tao Hai, it was found that Ban Tao Hai pottery products were discovered at the ancient kiln of Ban Tao Hai currently located within the complex of Ta Pakao Hai temple and Ta Pakao Hai school, Hua Raw sub-district, Amphur Muang, Phitsanulok province. The researcher found 80 pieces of pottery which were kept at different places such as temple, school, museum, and by community people. The style of discovered were in 6 categories, i.e. wide-mouthed jar, flaring-mouthed jar, basin, round-bottomed pot, jarlet, and mortar. The decoration on the products included applied spiral-shaped

design or so called "Lai Ou", excised and paddle-impressed designs, all were in the same piece of products, while some were without decoration. Most of the workpieces were unglazed, and some were glazed in brown to black colors. Another prominent feature on Ban Tao Hai pottery products were a range of marks or symbols made by the potters. The marks appeared on 22 workpieces which are very interesting and should be further explored in the future research.

## 8. Recommendations

1. It should explore and develop a contemporary style of pottery with applied wisdom of original work pieces so as to sustain its uniqueness of Phitsanulok province.

2. It should explore the clay body and glazes used in manufacturing pottery products of Ban Tao Hai.

3. It should explore the designs and development of other products by applying the uniqueness of Ban Tao Hai kiln site.

4. It should also explore the marks and their representations on the workpieces of Ban Tao Hai pottery products.

## Acknowledgements

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# The Study of Plant Designs in Painting
# (Beginning of Islam to the Early 8th Century AH)

Khatereh Kamyar[1] & Parisa Shad Ghazvini[2]

[1] Faculty Member, PNU, Tehran, Iran

[2] Associate Professor, Faculty of Art, Al-Zahra University, Tehran, Iran

Correspondence: Khatereh Kamyar, Faculty Member, PNU, Tehran, Iran. E-mail: khaterehkamyar24@gmail.com

## Abstract

The use of plant designs in artistic works of different nations since a long time ago indicates a close relationship between religion, culture, traditions and rituals in any nation with nature. These designs were usually depicted with a symbolic approach and ritual attitude. In ancient Iran, using plant designs has found a mythical aspect or has been used with a symbolic-decorative approach in different works.

With the arrival of Islam to Iran, this attitude has gradually changed and using plant designs was not done only to express symbols, myth-making or shows its holiness but also it found a scientific and typology aspect in the remaining works of the 3rd to 8rh centuries AH. Now, a question arises that were the plant designs depicted in painting of the above periods merely with the aim of expressing the symbolic or decorative aspect or were the other aspects considered? This paper was aimed to answer the above question and confirm the hypothesis that the designs of nature in painting of the 3rd to 8th centuries AH were done due to the sanction of portrait painting at the beginning of Islam with a focus on the introduction of the performance of useful plants. The tangible representation of them and decoration of literary texts and the expression of the symbolic aspect of plant were not considered. In this regard, it was attempted to refer to little documents in library to describe and analyze the plant designs in painting (the beginning of Islam to the early 8th century AH).

**Keywords:** painting, plant designs, functional Plants, the beginning of Islam to the 8th century AH

## 1. Introduction

Plants have attracted the attention of human beings since a long time ago as one of the important elements of nature and have been depicted in different ways on daily and functional objects. The use of plant designs can be observed as symbolic to decorative patterns in the artistic works of all nations. With the development of nations, the prosperity of human thoughts and the emergence of religions, the attitude of plants' holiness and their depicted patterns gradually changed. One of the main reasons of change in attitude is the use of natural elements like plant in the creation of different patterns, the emergence and acceptance of religion and rules of portrait painting inhibition at the beginning of Islam. The cultural-business expansion and transactions and using different sciences required the necessity of writing and recording them. Civilized and knowledgeable human decided to depict and illustrate the texts and also write in order to transfer his knowledge to the next generations and also better understand the subject.

According to many studies on different aspects of plant designs in painting, it seems that the other aspects of plant designs in illustrated books-that are considered as the important scientific documents-have been less fortunate. In this regard, the study of the origin and functions of plant types alongside the resources related to painting were considered necessary and the images of the early periods of the emergence of Islam, Abbasid School, and Seljuk period were selected as case studies. The obtained results confirmed the hypothesis and achieved an appropriate answer. It seems that the plant designs used in the remaining documents from the beginning of Islam to the 8th century AH were performed mostly with the aim of expressing the performance of plants' functional features and creating decorative coverage in literary texts and the expression of the symbolic aspect of plants was not considered so much.

In order to exploit and use the results of similar studies, some versions like the study of plant designs in Islamic arts: Hadi Arefi the visual feature of trees in Persian painting, Maryam Najafi and the study of symbolic elements

in Persian painting: Hussein Kafashchian Moghadam and … were studied.

This study first examined the beliefs and attitudes of painter and then introduced the images related to the subject under discussion in order to confirm the hypothesis.

## 2. Plant Designs in Line with the Beliefs of Muslim Artists

As we know, with the establishment of Islamic governments in different occupied areas, the cultural status and its effect on arts changed. The emergence and expansion of Islam in the east, created a culture and civilization that led human from Secularism to ideationalism by increasing the national abilities of these areas. The concept and meaning that Islam gave to these nations created specific artistic features that are unique and can be studied. Islamic art was created in line with the intertwined Islamic beliefs and ideas with national traditions and rituals of these nations and tribes. Thus, on the one hand the infrastructure of Islamic art was founded on the basis of the religious worldview of Islamic beliefs and on the other hand was created on the basis of national and ancient traditions, civilizations and cultures and taste and tendencies of nations that caused a variety of Islamic art in different areas. (Ghazvini, 2003, p. 62)

It should be said that no image can certainly express unity that is the basis of Islamic Muslim painter with his deep thoughts tried to display special images to express divinity and unity of God without depicting God or His prophet directly. Muslim artist has always attempted to use the natural elements to depict a beautiful face of spirituality, monotheism and all things related to the ability of God. In the mind of Muslim artist, the beauty of everything is in the expression of God's attributes, as the prophet of Islam said: the perfection or beauty of everything is in the praise of God. (Burckhardt, 1970, p. 19) According to this belief, Muslim artist accepted new beliefs about unity and then found out that his art should make the world bright and smooth and help the soul to disconnect from the disorderliness and distress about itself and move toward unlimited unity. Thus, one of the most important tasks of Islamic art is to serve Islamic religion and beliefs. In this regard, the artist should have a creative and active mind to leave the tangible world and real nature and achieve a mystical intuition with a deep look and attitude. (Ghazvini, 2003, p. 62)

The law of sanction in the early Islamic period caused the recession of painting to some extent in Islamic countries and often was revealed in the form of geometric shapes and Arabesque and Khataei patterns in religious centers. However, despite the severe religious inhibition, Iranians and even the artists of Umayyad and Abbasid dynasties never left the art of painting. (Vaziri, 2004, p. 185)

It seems that among the created artistic branches, the law of sanction created a limitation at least from the $3^{rd}$ to $5^{th}$ centuries AH, but the Muslim artist especially Persian painters created innovative ways to continue their works. In this regard, a special aesthetics, that was the result of Interference between past traditions and new Islamic attitudes, was established in traditional painting. (Pakbaz, 2004, p. 54)

It should not be forgotten that in the holy Quran there is not a verse that implicitly or explicitly inhibited the art of illustration, but there are some reasons for the sentence of sanction. For example, the prophet has narrated that: if someone depicts the picture of living creatures, he will go to the hell unless he could make the picture alive. However, according to some believers, such narrations read interpretations by qualified priests. (Akbari & Kashani, 2008, p. 41)

The necessity to use visual elements according to this view and created events like the sanction of portrait painting made the objective phenomena in nature especially plant elements to be used more than ever and with a different attitude in the creation of different works such as painting.

It should be said that abstracting has been a kind of basic and fundamental tendency in Persian art that was not canceled even at the time of Roman and Greek traditions. In fact, the Persian painted tried to show his mental expressions before achieving and Islamic attitude and the mere imitation of the real world and its appearances were considered as target in his mind. Although with the arrival of Islam many attitudes and executive methods changed but enjoying the objective aspects of a natural element like plant and transformations of form remained in the base of an image or any artistic work. Following this fact, using plant designs was doubled due to specific visual and semantic abilities but the increasing trend of using this natural element especially in executive method continued for centuries so that the peak of its evolution can be seen specifically after the $7^{th}$ century. (Pakbaz, 2004, p. 54)

## 3. Painting in the Early Centuries to the $4^{th}$ Century AH

From the emergence of Islam and The Rashidun Caliphs (11-41 AH) no painting or painting work was observed that was probably due to the inhibition of portrait painting in Islam. But with the arrival of Umayyad dynasty (41-132 AH) and the construction of palaces, the art of painting was used to decorate buildings according to the

past traditions. The first resources of Islamic illustration were mosaic panels with the theme of plants, flowers and bushes in the Dome of the Rock in Jerusalem and The Umayyad Mosque in Damascus and wall paintings of Umayyad palaces in Syria and modern Jordan with plant decorations- while painting on paper was not observed in the Umayyad era. With the emergence of Abbasid dynasty in 132 AH that continued until 656 AH using decorative paintings in the palaces of this era was like before with the difference that painting was done in books in addition to wall images.

One of the works in Samaria is a damaged picture on the wall of Josaq Al Khaqani palace in which a human carries an animal. Naturalism in animal motifs is observed well. The illustration of the details of animals' head and feet shows the skill and proficiency of the artist in simulation while the human form was depicted as unrealistic that is perhaps due to the laws about the sanction of portrait painting. The depiction of plant growth next to the body-that is probably related to the biological place of human and animal- and the flowers on the clothes, although seem hastily and primary in terms of implementation but is close to the nature and was merely used with the aim of decoration. (Picture 1)



Figure 1. Wall painting of Josaq Al Khaqani palace in Samaria the first quarter of the 3rd century AH (Pakbaz, 2001, p. 50)

According to some experts, although in such examples there are similarities on clothes, faces and facilities to the Middle Asia; it should be considered that the school of Middle Asia has been highly influenced by Sasanian for a long time. In the 3rd and 4th centuries AH the artistic language dominated Transoxiana was affected by the primary Greek-Persian style. But gradually, not only local concepts found priority on the Persian-mythical concepts but also western attitudes and tendencies became more obvious in artistic style. It should be considered that the Christians illustrated angels and Saints and the Manichaean also illustrated their holy book that probably inspired Muslim artists in the art of painting and illustration of books. (Pabaz, 2001, pp. 37-49)

Following the teachings of Mani, painting was considered as a tool of teaching and advertising for the Manichaean. The pictures available in the paintings of the Manichaean were mostly due done with the help of contract motifs as symbolic, soft lines, abstract forms and bright colors. Selected Manichaean characters were often depicted a sitting on lotus flower. In general it can be said that plant designs were one of the most important elements that were used in their paintings. The tradition of Manichaean's book remained in the Middle Asia for a while and then was developed by the Seljuks throughout Iran. (Ibid 46)

One of the illustrated works of Manichaean in which plant deigns were used is picture 2. In configuration of this picture, the element of plant has the highest domination. If we accept that the above work is in the vertical triangular frame, there are some texts in middle Persian script, that were written from right to left , on the right and there is a plant depicted in a semi-realistic way on the left there are some players at the top horizontally. Plant designs on the clothes of players are similar to the decorations of the carpet they are sitting on. The clothes, faces and hairstyle are similar to the people of the Middle Asia. The interesting point about the decoration of clothes and carpets is that the plant designs of carpet are as abstract flowers in the rectangular frame while the decorations of clothes were formed proportional to the size of body that are more obvious in the feet and hands of the right player. Another point about the two players is their left feet outside of the carpet's margin that is perhaps in order to show the type of their sitting while playing their instruments. The person on the left that is a little below the two players is not much obvious due to the damaged part of the picture. It seems that the

difference is between the decorations of clothes and the way of sitting but this difference is perhaps related to his social status than the other two players. The most important decorative element in this painting is the two plant stems that are seen as suspended in the air. Leaves, five-leaf flower and buds were depicted realistically with the help of different lines while an abstract flower has grown among the leaves. However, the more important thing is the obvious feature of painting by the Manichaean i.e. the presence of decorative plant element next to the human forms that became an important base for illustration in the next periods.



Figure 2. An image of Mani's book, players with plant decorations, Turpan, 2nd or 3rh centuries AH (Pakbaz, 2001, p. 47)

It should be said that there is a little awareness and source from Persian painting in the first four centuries AH. Perhaps in this period, Sassanid and Middle Asia illustration has had fundamental effects on the Persian paintings of the first centuries. Most available works related to these periods include little wall paintings. The books related to painting include "Al- Tanbih" by Masoudi (302 AH) and Panchatantra. With the advent of the Saffarids, Samanids and painting had a good fortunate among the development of arts. (Akbari, 2009, pp. 48-50)

Plant designs in painting (4th to 8th centuries AH)

The reign of Mahmoud Ghaznavi (389-421 AH) coincided with the prosperity of poetry in the style of Khorasani and preparation of Ferdowsi's Shahnama. The Ghaznavids like the Samanids showed an interest in painting and probably used artists from the middle Asia to decorate their palaces where the empty spaces of figures were filled with flower and fruit in most of the times. After the domination of the Seljuks in Iran, the performed contracts in portrait painting that were done with Mongolian model entered from the east to the western areas. (Ibid)

It seems that not only there were no pictures containing the symbolic use of plant designs in this time but also they were used as decoration in order to fill the background.

As was mentioned about the effect of the Manichaean art, the importance of paintings remained from the oldest Persian illustrated books is because they help to find the primary roots of painting in Iran that its continuity in the painting of the Seljuk period is obvious. The Seljuk era (428-552 AH) is one of the most important historical periods of Persian art and literature. In this period, Khamse, by Nizami, was written and architecture, metalworking and Pottery reached to the peak of prosperity. Although, different types of usual art were probably common during the Seljuk period, only a few wall paintings and a few numbers of illustrated versions have been left from that period. This is while the characteristics of visual art in Seljuk era can be found from the paintings on crockery and especially the containers called Minai. The very important script version of the Seljuk is the illustrated book of Varqa u Gulshāh in the early 7th century AH that was probably written in Azarbaijan in the early 7th century AH. Its images are very simple and derived from Manichaeism. These paintings are considered as one of the best examples of visual art in these periods. The simple parts of the text were decorated with flowers, birds and a variety of decorative ivies. (Pakbaz, 2009, pp. 55-56)

In some pictures like picture 3, plant elements play a major role in the picture. In fact, they are like a view which transfer happiness to the total atmosphere. Configuration in this primary image is simple and movements are

very few but meaningful. Two lovers have embraced each other beside a tree above which a bird is flying. Cypress as a symbol of spring, freshness and permanent love is placed at the center of the frame between two columns of verses that shows the main theme of the story. Two bushes that look like Arabesque branches are placed differently on both sides of the frame that play a symbolic role in addition to decoration and filling the background. There is a boudoir in the corner of a garden which participates in the love of the two lovers. The two birds on the left corner of the frame symbolically show the presence of lover and beloved among the bushes are consistent with the rotating movement of rooster's tail and plant stems. Probably, the presence of them next to each other, the flight of birds and Arabesque stems are the symbols of rebirth and eternity of their love.

Among the plants in the picture, Cypress is placed on the ground with a static body and its connection to the ground is shown with the grass below the picture. It seems that the painter attempts to show a ground or space to approach the picture to the nature in the story but the two twisted plants (ivies)around the two lovers imply a romantic atmosphere in an unreal situation as if their dream has come true. It should be known that all these motifs to text royalty were created with the aim of the visual demonstration of the story's theme in a not much skilled way whether in configuration or implementation and the introduction of the symbolic aspect of the plants was not considered highly.



Figure 3.Varqa u Gulshāh, about 596 AH (Akashe, 2001, p. 65)

As was mentioned, illustration was done rarely at the beginning of Islam. Baghdad was a scientific and artistic center since the 2nd century AH to the formation of The Ilkhanate reign in the second half of the 7th century AH and several books were written in this period. Translation of different scientific texts especially medicine was done from Greek to Arabic by translators but it is certain that a few number of illustrated books in Abbasid school or Baghdad school mostly included medical dissertations or benefits of plants, the application of useful varieties of plants or the introduction and study of animals or the report of travel stories by special people. Among different scientific subjects, the illustration of botanical and medicinal texts was more fortunate and welcomed (Akbari, 2008, pp. 42-46) that were probably done due to the inhibition rules and laws of illustration or the easiness of plants illustration.

For example, the images of the book Galen's medical book that is considered as the best indicator of painting style in middle centuries and the Seljuk period. The current pictures are related to the contexts of the book al-Diryaq (version 1199 AH) that dealt with the preparation of Antidote potions and amulets and charms and is very important in terms of scientific pictures and historiography. Pictures include 12 images about snakes and 13 scenes about the benefits of plants which include Greek examples. The scenes related to the process of the story were illustrated successively in the images of this book. (Akashe, 2001, pp. 310-312)

Another example is the pictures related to the book al-adwiya al-mufrada by Dioscorides. In these images, the illustration of plants o show a special symbol was not considered but also they express the useful benefits of plants that play an important role in human life. For example, the pictures related to the above documents in pictures, 4,5 and 6. In picture 4 of the book al-Diryaq, the story of a man who was saved from the bite of snake was illustrated. So that two snakes entered a vase that was filled with the extract of a medical plant and then died after drinking the water inside the vase, While the sick man became well after drinking a little of that water. Configuration in that picture is like the similar examples of these periods without considering the performed

view and scenes and only dealt with the subject. The fish in the river moved due to the wavy and intertwined lines. Plants also introduced the type of their efficiency and were used to fill the middle surfaces of other elements like humans and animals. The interesting point in this picture is how the horses enter and birds exit the frame. The snakes that are at the top of the vase, another snake that frightened the horse on the left and duck's wing, the Scale of the fish and the placement of the stand of the vase that is in front of the tree show the awareness of painter to volume and it was not observed in demonstration of human elements and decorative plants on the man's clothes. The junction point of the stand of the vase and the plant behind it and the placement of both at the center of the picture explain the main subject and the other elements play a subsidiary role. Plant's branches that were depicted without any connection to the ground among the empty spaces of other elements are totally for the decoration and coverage of the background. It should be added that although the scene of a garden can be seen in this picture, this subject shows the place of the plant's growth and its need to water not displaying a enlivening space and a special symbol of a non-terrestrial space.



Figure 4. Freedom of a man from the bite of snake, al-Diryaq, the end of the 6th century AH. National library of France (Akashe 1380, p. 150)

Picture 5 shows another example of this book that includes 5 plant examples and 5 non-plant examples. The illustrator in this image introduces the appearance of specific plants that respectively from right to left include Roasted alum and Balsam plant and shows a man opening the stem of a tree and collecting its extract in a bowl. Then, Gentianaceae and Nardin plant that is an efficient and aromatic are placed and then Hindi Teak is seen at the middle part below the picture as decorative and unreal. Finally, black pepper is placed at the end of the frame. Among each row of these frames, plant elements were used as abstract only for decoration. The appearance of plants in each frame was illustrated as primary only to introduce some parts of a plant like leaf, stem, body and root.
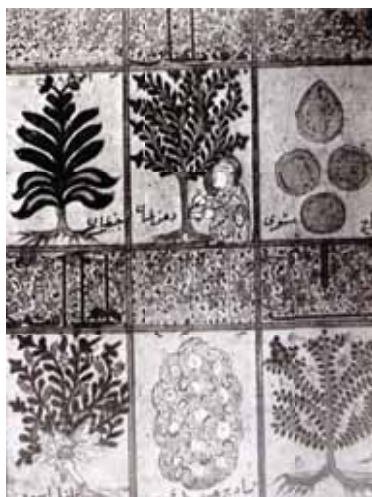


Figure 5. Display of plant table, al-Diryaq , the end of the 6th century AH (Akashe, 2001, p. 204)

In another example that is related to the book al-adwiya al-mufrada by Dioscorides its illustration includes the introduction of features in plants and the way to prepare drugs, surgeons at the time of working and a scene of unreal trees. (Vaziri, 2004, p. 188)

It should be said that Dioscorides studied the medical and drug advantages of plants for 40 years and then found the effects and advantages of seeds, shell, and kernels of plants. In the Arabic version of this book, two pictures should be considered that illustrated some parts of the book about the advantages of medical drugs. The introduction of vine and lentil plants that is shown in picture 6 is that: vine plant was depicted with a naturalistic and skilled style, so that it shows all parts of the plant from branch to leaf as real and all the plant was depicted as float in the space. The present study is totally consistent with the example in the original version while the depiction of lentil plant on the left of the picture is totally different from the picture of vine plant on the right. There are no details of leaves' Nervure and verisimilitude of the plant in the depiction of lentil plant, as if the painter copied it from a stereotype. Also, the display of the appearance of the plant as real was neglected so that the lentil plant was drawn horizontally on the paper, namely opposite of the direction of the plants' natural growth.

Figure 6. Introduction of vine plant (right) and lentil plant (left), al-adwiya al-mufrada , Attributed to Dioscorides (Akashe, 2001, p. 251)

Picture 7 introduced Fern plant that is described as: full of root, without flower and fruit, its leaves were grown from a single branch and stem and then were spread on the surface of the soil. This plant has a disgusting smell and astringent taste and grows on desert highland areas.

It seems that the Muslim painters who illustrated such a version paid attention to simplification and transformation more than illustration and this is perhaps due to their high attention to illustrating plants and especially transforming them in comparison to human pictures.

Figure 7. Introduction of Fern plant, al-adwiya al-mufrada, Attributed to Dioscorides (Ibid)

It should be said that the pictures in this version were illustrated due to the scientific and educational importance to progress natural sciences. But in most cases, these pictures were illustrated in a primary and different style compared to original examples. So that it did not create a specific method in painting, thus it is clear that this method could not continue, while Islam emphasized the knowledge and awareness of people in scientific fields. Thus, according to Ettinghausen, one of the features of script books in the middle ages was the existence of different sources that were used both in the east and the west. Also, writing books and texts derived from the

most famous references such as historical or natural sciences books were full of reports and points that differed in the description of an event and the author did not provide his/her opinions on the superiority of an event or another one to the reader. (Akashe, 2001, p. 251) Thus, it can be said that the presence of different people with different ideas and nations, different translations and type of ordered played a very important role in the lack of pictorial (visual) cohesion in this version.

The last selected image is from the book Maqamat hariri. The pictures in this book have a special attraction because they have comic, funny and instructive themes. (Kanbay, 2008, p. 115) Among the pictures in this book, there is an example in which plant element is shown in a more clear way.

In picture 8, the hero of the study named Abuzid Al Soruji with Hares Ibn Hemam and his friends are sitting in a Promenade and singing together. Next to them, on the right of the picture, there is an ugly man who is not allowed to be with the group, but he says beautiful and interesting words about the interpretation of lyric words singing by the group that makes them surprised.

The atmosphere in the picture seems unrealistic, although the placement of human elements altogether, the style of their body and face and linear implementation of the objects like containers and instruments clearly indicate the theme but the total atmosphere especially the plant element that allocated half of the picture to itself implies an unreal expression. The plants in the picture are more similar to food plants than trees. The form of stem, leaf and bud was depicted by using the current form in the nature but in an unrealistic way. On the left, right and middle they totally moved toward abstraction, as if the Arabesque stems primarily indicate a promenade that included a group. In addition, the existence of two different birds on the right and left sides of the plant's stems shows the geographical status. On the right, there is a Seagull that shows the existence of water, freshness and purity of that place while there is a bird-probably crow - on the left that describes the place and is probably the symbol of the ugly man.

In general, new leaves, the plant element in the picture and the wavy state of stems, new leaves, its bud and 3 abstract flowers are a symbol of green space that encourage some young people to sing. In this image, the depiction of plants is the display of an enlivening space in a not-skilled configuration with the aim of filling the empty surfaces and does not discuss a special symbolic aspect.



Figure 8. Hares Ibn Hemam and Abuzid Al Soruji in Promenade Maqamat Hariri, 738 AH (Akashe, 2001, p. 251)

## 4. Conclusion

In general, it can be said that according to the study of the mentioned pictures and such examples, in order to confirm the hypothesis, using plant element in the images of these periods the beginning of Islam to the 8th century AH was done to introduce the appearance, food features, decorate empty surfaces, intervene in the pictorial description of a story and was not the certain and clear expression of a particular symbol. It should not be forgotten that in a few cases like picture 3, the plant element was used with a symbolic expression in order to display the subject of the story. It seems that having the symbolic aspect of a plant, as was common during the ancient period, was very little in the images of the beginning of Islam and the next centuries. Because the attitude of Muslim artists changed with the emergence of Islam and then their aim of using natural elements especially plants was performed to complete the artistic work (painting) and show the unity of God not to express the holiness of a particular plant. It should be considered that this fact is clearly seen in most images of the Seljuk

period and Abbasid School. Although we see the use of plant designs in painting of these periods, but this trend was performed gradually and precisely so that it led to the creation of great works in the next periods.

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# The Effect of Auditor's Industry Specialization on the Quality of Financial Reporting of the Listed Companies in Tehran Stock Exchange

Rodabeh Havasi[1] & Roya Darabi[2]

[1] MA in Accounting, South Tehran Branch, Islamic Azad University, Tehran, Iran

[2] Department of Accounting, South Tehran Branch, Islamic Azad University, Tehran, Iran

Correspondence: Roya Darabi, Department of Accounting, South Tehran Branch, Islamic Azad University, Tehran, Iran. E-mail: royadarabi110@yahoo.com

**Abstract**

This study examines the effect of auditor's industry specialization on quality of financial reporting of the listed companies in Tehran Stock Exchange during the period of 7 years from 2008 to 2014. It is expected that industry specialist auditors will show more competence and auditing quality in discovering opportunistic behavior in executives and most probably they will report financial statements to maintain their reputation; in other words, it is expected that auditors specialized in industry will have an effective role in corporate governance and improving the quality of financial reporting. In this research, the accurate of predicting future cash flows operations through components of the operation profit was served as a measure for the quality of financial reporting and patters of the market share based on the total audited properties of the company and total auditor income was used as auditor expertise characteristics in that audited unit's industry were used. A total number of 119 companies were selected as samples and using logit regression model, the results were analyzed. The findings suggest that auditor's expertise in the industry, has a direct impact on the quality of corporate financial reporting. In this regard, testing the research's hypotheses showed that the auditor expertise in the industry (on the basis of market share pattern based on auditor's total revenue) has no significant effect on the quality of financial reporting. However, if the auditor expertise in the industry (on the basis of market share pattern based on the sum of the audited assets) was to be measured, it will leave a significant effect on the quality of financial reports. Therefore, it is concluded that the factor of the auditor's expertise in the industry is sensitive in relation with the type of indices used to assess it.

**Keywords:** Auditor expertise in the industry, quality of financial reporting

## 1. Introduction

In all history, man has been in need for information to try to understand phenomena and reduce uncertainty about the unknown in a way that the beginning of the human history coincides with his ability to accumulate information and exchange it. In a financial unit, the executive's main task is making decisions and the basis of decision making is being informed, because without reliable information, logical decisions cannot be made (Behmanesh, 2006).

To get on time, correct and reliable information related to financial activities of economic agencies, one of the primary conditions is for people to invest (Zadmhr, 1999; Talanh, 2001). Therefore, information that is provided in financial reporting process, must be in a way to help investors by evaluating executives' efficiency in terms of proper saving and use of resources. Representatives of shareholders –meaning the executives- are regarded as the protectors of the shareholders and investors' national wealth and resources in financial institutions. Therefore, it is necessary for the executives to provide comprehensive reports on the results of their operations and actions which include the financial state and the result of the executive's activities in a correct and clear way for the shareholders at least at the end of each fiscal year (Mojtahedzade & Chytsazan, 2005).

Leading stationary savings towards production units and establishing facilities for public participation in industry development and sharing factories' profits with the public are regarded as some of the goals of the capital market. To reach these goals, the capital market must gain the trust of the investors. This trust can only be achieved in the shade a clear capital market and the clarity of the capital market relies on the financial reporting of the listed

companies with quality in that market. Since financial reporting with quality causes the reduction of inside information and the improvement of market efficiency, it bears great importance.

The quality of financial reporting can be defined as the accuracy of reflecting information related to operations and flow of cash in that financial unit. Based on the theoretical concepts of financial reporting, the primary objective of financial statements is presenting summarized and categorized information regarding the financial state, efficiency and flexibility of that financial unit to help users of financial statements in taking economic decisions. The quality of financial information is analyzed from different perspectives. Therefore, the main factor for the quality of financial information from the perspective of the devisers of the accounting standards are the two features of relevance and reliability and these two aspects make the information useful for the decision makers (Qamary, 2011).

The informational asymmetry between the company and the shareholders causes the shareholders to demand more information that is valid. Independent auditing if effective on the measure of truth and accuracy of financial statements and financial information. Titman and Truman (1988) introduce auditing as a factor increasing the amount of accuracy and truth in information that is presented to the shareholders after auditing.

In fact, according to the representation theory, executives have more information in comparison with the shareholders may make decisions that are not in the interests of the shareholders. The auditing process is considered as one of the important approaches in decreasing representation conflicts and opportunistic behaviors of the executives in manipulating the items in the financial statements. Recent studies show that the superior system of financial reporting reduces capital expenses and improves efficiency (Bushman and Smith, 2001). Further, theoretical rationalizing show that the high quality of financial reports causes the reduction of problems in financial units and also the reduction of expanses of identifying and selecting capital projects. Therefore, the issue that will be addressed in this study is whether the auditor's industry specialization is also effective on the quality of financial reports from the listed companies in Tehran Stock Exchange. In other words, has the existence of the industry specialist auditors provided the grounds for the improvement of the quality of financial reports from listed companies in Tehran Stock Exchange?

## 2. Review of Literature

### 2.1 Auditor's Specialty

Special knowledge of one specific industry is used by an auditing institution in order to help reaching a better understanding of what the masters of that industry do and also the risks that they face in auditing (Kend, 2008). Therefore, the expertise of the auditor in the industry is an important distinguishing factor among auditing institutions. The expertise of the auditor is obtained using the following equation:

Specialty auditor: Auditor – Spec

Dunn and Mayhew (2004) believe that auditors specialized in industry have more knowledge and experience in comparison with non-specialist auditors. Recent studies by Dunn and Mayhew (2004) showed that the expertise of the auditors has a direct relation with the quality of the accounting information and the expertise of the auditors plays an important role the supervision over the process of financial reporting. Researchers like Craswell et al. (1995), D. Fund et al. (2000), Balsam et al. (2003), Krishnan (2003), Francis et al. (2005) and Richlet and Wang (2010) have shown that the quality of auditing and the amount of profit in companies that enjoy industry specialist auditors is more.

### 2.2 Quality of Financial Reporting

Quality of financial reporting can be defined as the amount of accuracy in the financial reporting in reflecting information about operations and flows of cash in financial units. There are two general approaches in assessing the quality of financial reporting: the approach of the users' needs and the approach of supporting investors and shareholders. In the approach of the users' needs, the quality of financial reporting is defined and determined as the usefulness of the financial information (relevance and reliability). In the approach of supporting investors and shareholders, the quality of financial reporting is defined in general based on the full and fair disclosure for shareholders (Qamari, 2011).

### 2.3 Auditor Industry Specialization and Other Proxies of Financial Reporting Quality

One of the proxies of the quality of financial reporting used by professional analysts is the quality of the voluntary disclosure quality. Theoretical researches suggest more disclosure increases market liquidity and decreases transaction costs and consequently, lead to decreases in capital expenses. Experimental evidences are paradoxical. Dunn and Mayhew (2004) found a direct relation between the auditing institution's specialty in the

industry and the company's disclosure quality but did not consider the role of the value of industry specialized auditors. Further, the relation between the industry specialization of the auditor and the improvement in the quality of disclosure must be tested by the market.

But Peine (2008) did no systematic analyses for the behavior of the voluntary commitment items for companies that have not been able to achieve the analysts' predictions. This is a matter of high importance, because equality or inequality of the real benefit with the analysts' prediction do not indicate the positive effect of the industry specialist auditors in itself. Furthermore, researchers are still unable to answer the question that why should the executives use industry specialized auditors when several indicators show that the market shows a negative response to a profit which is lower than the analysts' predictions? Similar to other proxies, this proxy has also been criticized as a criterion for profit management by researches like Dechow et al. (2003), Durtschi and Easton (2005) and Durtschi and Easton (2009) in terms of its credibility. But, Jacob and Jorgensen (2007) argue that these challenges are misinterpreted.

*2.4 Research Background*

Krishnan (2003) analyzed the relationship between the auditor's industry specialization and the net value of the client's voluntary commitment items. He reached the conclusion that the clients of the non-specialized auditors, with an average of 1.2 percent higher of their total properties, report their net voluntary commitment items higher than the net voluntary commitment items of the auditors' clients.

Jenkins et al. (2006), studied the impact of the auditor's specialty in the industry on the reduction of the profit quality in the late 1990s. The question was if the industry specialized auditors had any roles in reducing the profit quality in the late 1990s or not. The findings of their research indicated a meaningful increase in the coefficients of the profitability equation, which these findings are viewed as the reduction of the profitability quality in this period. But, the increase in the voluntary commitment items and reduction of coefficients of the profitability equation in companies where industry specialized auditors were utilized was the least among all companies.

Gool et al. (2009) studied the impact of the auditor's specialty in the industry on the relation between the period of the auditor's service and the profitability quality. The results of this study showed that the relation between the short-term period of the auditor's service and lower profitability quality for clients whose work was audited by industry specialized auditor is lower than others.

Shoaeir (2010) analyzed the impact of the auditor's specialty in the industry on the auditing quality. The results of her research indicated that with the use of the measure of the auditor's share in a certain industry, the level of voluntary commitment items in the industry specialists is lower.

In a study entitled "Industry specialty of auditing companies and the profitability quality" Karjalaynn (2011) found out that the specialty in the industry in auditing in Finland has a direct relation with the reported profitability quality. He confirmed that the level of voluntary commitment items in companies that are audited by specialized companies is lower in comparison with other private companies. Therefore, the results indicate that the industry specialization of the auditing company is a source of differentiation in the auditing quality.

In his study, entitled "Auditor's industry specialization and the coefficient in the profitability equation", Bhattacharya (2011) studied the relation between the industry specialized auditors and the profitability equation coefficient of New Zealand companies. The results of this study showed that the auditor's industry specialty did not have any meaningful impact on the profitability equation coefficient of New Zealand companies.

Sun and Liu (2013) studied the interactional impact of the auditor's industry specialization and the independence of the board of executives on the profit management in American production companies. Results showed that the independence of the board of executives on its own cannot reduce the amount of manipulation in the voluntary commitment items. Further, non-serving members of the board of executives in companies who utilized industry specialized auditors can limit the amount of the voluntary commitment items.

Debra and Jeter et al. (2014) studied the impact of the industry specialized auditor on the expenses efficiency in homogenous industries. Results of this research show that the industry specialized auditors can take the costs to the lowest possible levels in industries with homogenous operation and complicated accounting methods and they can also increase the auditing quality in these industries.

Etemadi et al. (2009) in a study entitled "Studying the relationship between the auditor's industry specialization and profitability quality in listed companies in Tehran stock Exchange" showed that companies whose auditor was specialized in the industry had lower level of net voluntary commitment items and higher profitability equation coefficients in comparison with companies whose auditors were not specialized in the industry.

Hasas Yeganeh et al. (2012) analyzed the impact of the auditor's industry specialization on financial reporting and the capital market's reaction. In this research, the coefficient of reaction to profits in companies that were audited by industry specialized auditors was compared to companies who were not audited by industry specialized auditors. Results of this research showed that there is not a significant difference between the informational content of the commitment and cash particles of the profit in companies with industry specialized auditors in comparison with other companies.

Nazemi Ardakani (2012) studied the impacts of the auditor's industry specialization on the different aspects of profit management (in other words, managing commitment items and real profit management) and the future operational efficiency of the listed companies in Tehran Stock Exchange. In this study, the approach of the auditor's market share was used to measure the auditor's specialty yin the industry. Results of this study showed that in Iran, clients who have industry specialized auditors, face limits in managing voluntary commitment items and consequently, switch to real profit management.

Estehmami (2013) analyzed the impact of the auditor's industry specialization and auditing quality on the profitability equation coefficient of the listed companies in Tehran Stock Exchange. Results showed that with the increase in the auditor's specialty, the companies' profitability reaction coefficient increased and the profitability equation coefficient of the companies who had industry specialized auditors was more than the profitability equation coefficient of the companies who do not have industry specialized auditors.

Barzideh and Madanchiha (2014) studied the impact of specialization of the auditing company in the industry on the delay in auditing report. To test the research's hypothesis, the financial and non-financial information of 311 listed companies in Tehran Stock Exchange during the years 2005 to 2013 was analyzed using the multi-factor regression model. Results of the hypothesis test in the first state showed that the auditor's industry specialty has no meaningful impact on the delay in auditing report, but the results of testing the hypothesis in the second state showed that the auditor's specialty in the industry has significant and inverted impact on the delay in the auditing report.

*2.5 Research Hypothesis*

**H1:** Auditor's industry specialization has a significant impact on the quality of financial reporting.

**H1-1:** Auditor's industry specialization (based on the model of market share based on total assets of the audited company) has a significant impact on the quality of financial reporting.

**H1-2:** Auditor's industry specialization (based on the model of the market share based on total audit fees) has a significant impact on the quality of financial reporting.

*2.6 Conceptual Model of the Study*

Given that in this study, the effect of auditor's industry specialization on the quality of financial reporting is examined, based on the research's conceptual model in the following way, the impact of the research's independent variable on its dependent variable is evaluated.

Figure 1. Research conceptual model

## 3. Research Methodology

In terms of its goal, this research should be regarded as a practical study. Practical studies are those that apply theories, laws, principles and technics that are devised in basic studies to solve execution problems. This study is of a homogenous nature and uses the secondary data from the listed companies' financial statements in Tehran

Stock Exchange to analyze the homogeneity relation. Homogeneity studies include researches in which it is tried to discover and determine the relation between different variables using the homogeneity coefficient. In homogeneity researches, the main goal is to determine the type, size and amount of relation between two or more variables. Furthermore, this study is of the comparative- syllogistic nature in terms of its logic. In this type of logic, the movement is from the known to the unknown. In this method, the experiment is analyzed syllogistically and leads to the hypotheses. Then, with a comparative method, the concepts of the hypotheses are tested so that their readability can be evaluated.

*3.1 Statistical Population and Sampling Method*

Statistical method of this research includes the listed companies in Tehran Stock Exchange. The sample is the sum of sizes from the statistical group that are practically collected during the research and the process of a research can be distinguished as an effort to understand the behavior of the statistical group based on the gained information from the sample. Because collecting information for all the statistical group necessitates great amounts of expense and time. Furthermore, in some cases the information collection from all the members of the statistical group is illogical. Therefore, it is an obligation to extract a sample and on the other hand, it is a common knowledge that sampling causes reduction of certainty and trust of the results. To determine the studied sample, companies from the above mentioned statistical group has been selected that:

1. Their financial information from the study's time period, meaning the years from 2008 to 2014 is available.

2. Their fiscal year ends in March.

3. Companies who were listed in the Stock Exchange until the end of March 2007 and their names in the studied period were not eliminated from the companies that were listed in Tehran Stock Exchange.

4. Companies that have not changed their fiscal term in the studied period.

5. Companies that are not among the financial and investing institution.

Accordingly, after applying the above mentioned restrictions, 119 companies had the above mentioned conditions during the years 2007 to 2013 and with regard to this, sampling was not done and all the companies were selected to be analyzed.

*3.2 Data Collection Method*

In this study, the library method was used for gathering information in the theoretical department and for research history. The needed information collection method of the research in the stage of devising the library research methodology, searching the internet, studying papers, journals, assertions and other scientific sources is valid and the other part of the data is extracted from the soft-wares available in Tehran Stock Exchange which include information regarding the financial statements of the sample accompanies. The collected data was adjusted and classified using Excel Software. Then, the final analysis is done using Eviews and SPSS soft-wares.

First the Jarque Bera test is done to make sure of the normal state of the used data, then, using the multi standard regression, the hypotheses are tested. Furthermore, in this research, with regard to the type of the data and available analysis methods, the combinational data method is used. Combinational data is from data related to different companies in different years and is considered in the form of company-year observations. These type of data have advantages such as presenting more information, inequality in the limited variance, the lesser level of equality between variances, more freedom ranges and more efficiency.

**Research Model**

According to the presented hypotheses regarding the impact of the auditor's specialty on the quality of financial reporting, the regression model for testing the hypotheses in this study is as follows:

$$QFR_{i,t} = \beta_0 + \beta_1 \text{ Auditor} \neg \text{ Spec}_{i,t} + \beta_2 \text{ Size}_{i,t} + \beta_3 \text{ Debt}_{i,t} + \beta_4 \text{ Prof}_{i,t} + \varepsilon_{i,t}$$

In the above model:

QRF: Quality Financial Reporting

Auditor-Spec: Auditor Specialty

Size: The size

Debt: Ratio Debt

Prof: Profitability margin

$\varepsilon$: left over

*3.3 Research Variables*

The independent variable of this study is the auditor's specialty. In the current research, standards based on the market share of the total properties of the audited companies and the total fees for auditors for measuring the specialty of the industry specialized auditing are utilized.

3.3.1 The Use of Market Share Based on Company Size (Total Assets)

The market share with regard to the total assets of the company is calculated in the following method:

**Total assets of all clients any special audit firm in a particular industry**

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**Total assets of all employers in the industry**

Only institutions are regarded as industry specialized in this research whose market share (meaning the result of the above equation) is more than [1/2 * (companies in the industry / 1)] is (Palm Rose, 1986).

3.3.2 Using the Market Share of the Auditing Fee

To measure and evaluate the specialty of the auditor in the industry, using the auditor's fee (having the biggest share in the market (majority) for the industry specialized auditor) from the model by Habib and Bouyan (2011), the following equation is applied:

$$Auditor\ Spec_{ik} = \frac{\sum_{j=1}^{Jik} AF_{ijk}}{\sum_{i=1}^{Ik} \sum_{j=1}^{Jik} AF_{ijk}}$$

In the model above, AF (auditing fees) and the numerator represent the sum of the clients' paid fees (Jik) to the auditing company (i) in a certain industry (k) and the denominator represents the sum of the total fees paid by all the clients (Jik) in a certain industry (k) to all the serving auditing companies (Ik) in that industry.

In this study, the dependent variable is the quality of financial reporting and the basis for measuring the quality of financial reporting is the waste obtained from the estimation of the following regression model:

$CFO_{i,t+1} = \alpha_0 + \beta_1 CFO_{i,t} + \beta_2 \Delta AR_{i,t} + \beta_3 \Delta INV_{i,t} + \beta_4 \Delta AP_{i,t} + \beta_5 DEP_{i,t} + \beta_6 OTHER_{i,t} + \varepsilon_{i,t}$

where in:

$CFO_{i,t}$ : Cash flow from operations for the company i per year t.

$\Delta AR_{i,t}$: Change in accounts receivable company i per year t.

$\Delta INV_{i,t}$ : Changes in inventories company i per year t.

$\Delta AP_{i,t}$ : Change in accounts payable and deferred debt company i per year t.

$DEP_{i,t}$ : The cost of depreciation of tangible fixed assets and intangible company i per year t.

$OTHER_{i,t}$ : Net other accruals which is calculated as follows:

$OP_{i,t} - (CFO_{i,t} + \Delta AR_{i,t} + \Delta INV_{i,t} - \Delta AP_{i,t} - DEP_{i,t}$

$OP_{i,t}$ : operating Profit

$\varepsilon_{i,t}$ : deal error which is assumed to have zero mean and variance of the is fixed.

Control variables in this study are size, leverage and profit margins whose impacts are controlled to have a more accurate analysis of the impact of the auditor's specialty on financial reporting quality so that the research hypotheses are better tested.

It is expected that a significant relationship should exist between the company size and the financial reporting quality. The operational definition of this variance is as follows:

$SIZE_{i,t} = Ln(N_{i,t} \times P_{i,t})$

where in:

p: company Stock price

N: The number of shares in the company current

It is also expected that a significant relation should exist between profitability margins and financial reporting quality. The operational definition of this variance is as follows:

**LEV $_{i,t}$ = TL $_{i,t}$ / TA $_{i,t}$**

where in:

TA: Total assets

TL: Total liabilities

Therefore, it is expected that a significant relation should exist between profitability margins and financial reporting quality. The operational definition of this variance is as follows:

*PROF = (SALE −COGS) /SALE*

where in:

COGS: Cost of sales

Sales revenues: SALE

*3.4 Descriptive Statistics of Variables*

Descriptive statistics merely describes the statistical group and its goal is to calculate the society's parameters. In this paper, the statistical indicators of the group for the studied variances are generally calculated. These indicators include central indicators, dispersion indicators and indicators of the distribution form.

Table 1. Descriptive statistics of the research variables

|  | Variable | Average | Middle | Maximum | At least | Standard deviation | Skewness | Elongation |
|---|---|---|---|---|---|---|---|---|
|  |  | 0.545 | 1.000 | 1.000 | 0.000 | 0.498 | -0.181 | 1.032 |
| Specialty auditor | According Total assets | 0.566 | 1.000 | 1.000 | 0.000 | 0.495 | -0.268 | 1.072 |
|  | Based on the audit fees | 0.430 | 0.000 | 1.000 | 0.000 | 0.495 | 0.281 | 1.079 |
|  | company size | 5.888 | 5.818 | 8.032 | 4.318 | 0.569 | 0.746 | 4.134 |
|  | Ratio Debt | 0.664 | 0.673 | 1.941 | 0.096 | 0.187 | 0.589 | 7.198 |
|  | Profit margin | 0.232 | 0.205 | 0.830 | -0.376 | 0.167 | 0.645 | 5.031 |

In studying most of the descriptive indicators of the variances it is observed that the average of most variances is bigger (smaller) than the middle amount. The bigger or smaller average than the middle amount indicates the existence of big points in the data, because the average is affected by these amounts. In these cases, the data distribution is skewed to the right or skewed to the left and the skewness range is not located in the range of +2 to -2 which shows that the variance distribution has a great difference with the normal distribution in terms of symmetry. In other words, the remote data from the average, middle and the view is located either on the right or the left of the measure.

*3.5 Testing the Normality Distribution of Variables*

According to the values of the Jarque Bera indicator and its possibility (the possibility of the indicator for less than an error level of 5 percent), the variances do not have a normal distribution. Although by using a process, the data can be normalized, on the other hand, normalizing data is a type of data manipulation that is not excused in the scientific method process and on the other hand, with regard to the high number of the observations in accordance with the central limit theory, the lack of normality in the research variables does not pose any interventions in the continuance of the analyses.

Table 2. Test of normality distribution of variables

| Variables | Statistics Jarek-to | Sig. |
|---|---|---|
| Quality financial reporting | 162.7104 | 0.000 |
| Auditor's expertise based on Total assets | 162.8789 | 0.000 |
| Auditor Specialty based on audit fees | 162.9218 | 0.000 |
| Company size | 143.0350 | 0.000 |
| Ratio debt | 771.8416 | 0.000 |
| Margin of profit | 105.4677 | 0.000 |

*3.6 Correlational Analysis*

To analyze the correlation between the research's coefficients the Pearson correlation coefficients are used. One of the reasons for studying this is to control the correlation phenomenon between the descriptive variances of the model. From a theoretical perspective, the existence of a strong correlation between descriptive coefficients of the model leads to the formation of the correlation problem. With regard to the pair correlation coefficients and the related probability except for a few items (that are highlighted), a meaningful correlation (indicator probability with an error level less than 5 percent) is observed between pair coefficients, which in some cases the correlation is positive and in some it is negative. But its intensity is not to the extent that would lead to the appearance of correlation. This means that there is a possibility for the research's model to be applied with the simultaneous existence of all the descriptive variances.

Table 3. Correlation coefficients matrix between research explanatory variables

| Variables | Quality financial reporting | Auditor's Expertise Based on Total Assets | Auditor Specialty Based on Audit Fees | Company Size | Ratio debt | Margin of profit |
|---|---|---|---|---|---|---|
| Quality financial reporting | 1 | 0.094** | 0.186 | 0.254** | .344 | -.198* |
|  |  | 0.000 | 0.000 | 0.000 | 0.085 | 0.042 |
| auditor's expertise based on Total assets | 0.094** | 1 | 0.235** | 0.161** | -0.014 | 0.191** |
|  | 0.000 |  | 0.000 | 0.000 | 0.744 | 0.000 |
| auditor Specialty based on audit fees | 0.186 | 0.235** | 1 | 0.249** | 0.228** | 0.184** |
|  | 0.121 | 0.000 |  | 0.000 | 0.000 | 0.000 |
| company size | 0.254** | 0.161** | 0.249** | 1 | 0.299** | 0.110** |
|  | 0.000 | 0.000 | 0.000 |  | 0.000 | 0.000 |
| Ratio debt | 0.344 | -0.014 | 0.228** | 0.299** | 1 | 0.141** |
|  | 0.085 | 0.744 | 0.000 | 0.000 |  | 0.000 |
| Margin of profit | -0.198* | 0.191** | 0.184** | 0.110** | 0.141** | 1 |
|  | 0.042 | 0.000 | 0.000 | 0.000 | 0.000 |  |

* Significant in probability level of 95 %; ** Significant in probability level of 99 %

## 4. Testing the Model of the Quality of Financial Reporting

To achieve a model of financial reporting quality in this research, the multifold linear regression with the method of Empirical Generalized Least Squares (EGLS) is used. In this method, the inequality of the variances' waste through minimizing the weight sum of the squares of the residuals that indicate the average weight is minimized. First the regression pattern of the models is achieved using the Limer and Hausman F tests, then, to test the meaningfulness of the F indicator and to test the meaningfulness of the regression coefficients, the t indicator is used. To test the application of the classic presuppositions of regression patterns (normality of the distribution of the remaining sizes, lack of correlation between the residuals and lack of a linear connection between independent variances), the drawing method, the Durbin Watson indicator and the indicator of variance increase factors are used respectively. First, with attention to the combinational nature of the research's data, the Limer and Hausman F tests are conducted to determine the type of the regression model pattern for financial reporting quality.

Table 4. Results of F Limer test

| Fixed effects | F Statistics | Degrees of freedom | Sig. |
|---|---|---|---|
| Sectional | 1.4310 | (725.118) | 0.0087 |

Table 5. Hausman test results

| Random effects | Statistics chi-sq | Degrees of freedom | Sig. |
|---|---|---|---|
| Sectional | 157.7123 | 6 | 0.000 |

As it can be seen in the tables above, the significance level of the F Limer test is less than .5, therefore, to estimate the regression model, the cross-sectional fixed effects model should be used. On the other hand, the significant level of the Hausman test is also less than .5, which indicates that the elevations width of the models above cannot be considered as random phrases. As a result, the regression model of the financial reporting quality is measured in the cross-sectional effects method.

Table 6. Measuring the quality of financial reporting model

| Variables | Coefficient Variables | Standard error | Statistics T | VIF | Sig. |
|---|---|---|---|---|---|
| Source | 21475.02 | 7020.917 | 3.8512 | - | .0001 |
| Operating cash flow of the current period | .5992 | .0512 | 14.4919 | 1.712 | .0000 |
| Changes in accounts receivable | .1590 | .0316 | 6.4036 | 1.652 | .0000 |
| Changes in accounts payable | .2679 | .0482 | 5.4305 | 1.498 | .0000 |
| Changes in inventory Merchandise | .2856 | .0420 | 4.6793 | 1.632 | .0000 |
| Depreciation expense | .1265 | .2027 | 2.1621 | 2.038 | .0232 |
| Other accruals | .2090 | .0231 | 4.0241 | 4.101 | .0000 |
| coefficient of determination | | .7406 | | | |
| Adjusted coefficient of determination | | .7104 | | | |
| Durbin-Watson statistic | | 2.3538 | | | |
| Sig model | | .000 | | | |

As is stated above, to make sure that there is no correlation between the independent variances (regression presupposition), the variance increase factor VIF was used. In the table above, the sizes of the VIF are less than .5. Therefore, there is no correlation between the independent variances. Results of the table show that with regard to the significance level which is less than .5, the total significance of the regression is affirmed at the confidence level of 95 percent. Therefore, the regression variance coefficients are not zero simultaneously. It is observed in the table that all the variances are in a confidence level of 95 percent in the significance relation with the operational cash flow of the future term. In this way, 71.04 percent of the changes in the operational cash flow of the future term is determined by the input variances in the model above.

*4.1 Hypothesis Testing*

The purpose of this research was to investigate the impact of auditor's specialty on financial reporting quality of the listed companies in Tehran Stock Exchange. To do the analysis and test the hypotheses, a sample with a total number of 119 listed companies in Tehran Stock Exchange in a period of 7 years (from 2007 to 2013) was examined. In the research's main hypothesis, the impact of auditor's industry specialty on the financial reporting quality was tested.

4.1.1 Results of Testing the First Subsidiary Hypothesis

$H_0$: There is no meaningful relation between the auditor's industry specialty, based on the pattern of market share based on total audited assets of the company, and financial reporting quality.

$H_1$: There is a meaningful relation between the auditor's industry specialty, based on the pattern of market share based on total audited assets of the company, and financial reporting quality.

$$\begin{cases} H_0 : \mu = 0 \\ H_1 : \mu \neq 0 \end{cases}$$

4.1.2 Results of Testing Second Subsidiary Hypothesis

$H_0$: There is no meaningful relation between the auditor's industry specialty, based on the pattern of market share based on total auditor's fees, and financial reporting quality.

$H_1$: There is a meaningful relation between the auditor's industry specialty, based on the pattern of market share based on total auditor's fees, and financial reporting quality.

$$\begin{cases} H_0 : \mu = 0 \\ H_1 : \mu \neq 0 \end{cases}$$

In each of these assumptions, the quality of financial reporting as the dependent variable, auditor's specialty based on the above mentioned patterns as the independent variable and the variables of company size, debt relation and profit margins were considered as controlling variances in order to control the other possible effective factors. To test the hypotheses, because the research dependent variable has two values (high financial reporting quality with the value of one and low financial reporting quality with the value of zero), the Logit regression model was utilized in the following way.

$$QFR_{i,t} = \beta_0 + \beta_1 \, Auditor \neg Spec_{i,t} + \beta_2 \, Size_{i,t} + \beta_3 \, Debt_{i,t} + \beta_4 \, Prof_{i,t} + \varepsilon_{i,t}$$

In this analyses, items such as the significance of the whole model, the significance of the model's coefficients of descriptive variances and the model's descriptive capacity were analyzed.

Table 7. Results of the model impact, audit expertise on the quality of financial reporting

| Description | | | Model(1) | Model(2) |
|---|---|---|---|---|
| explanatory variables | Width of Source | Factor | -0.3122 | 3.1192 |
| | | Statistics z | -0.8283 | 3.0802 |
| | | (statistics chance) | 0.30 | 0.00 |
| | Auditor's expertise based on Total assets | Factor | 0.0503 | 0.1280 |
| | | Statistics z | 3.9865 | 2.8624 |
| | | (statistics chance) | 0.00 | 0.00 |
| | Auditor Specialty based on audit fees | Factor | 0.0061 | 0.0088 |
| | | Statistics z | 0.0777 | 0.0901 |
| | | (statistics chance) | 0.93 | 0.92 |
| | Company size | Factor | | 0.0714 |
| | | Statistics z | - | 2.2305 |
| | | (statistics chance) | | 0.02 |
| | Ratio debt | Factor | | 0.0966 |
| | | Statistics z | - | 1.8680 |
| | | (statistics chance) | | 0.06 |
| | Margin of profit | Factor | | 0.0231 |
| | | Statistics z | - | 4.8800 |
| | | (statistics chance) | | 0.00 |
| | | Statistics lr | 16.2900 | 107.3630 |
| General significant review of model | | (statistics chance) | 0.00 | 0.00 |
| Check explanatory power of the model | | coefficient of determination | 0.0466 | 0.2214 |

The results of the study of the research's model, with regard to the z indicator and its probability indicate the significance of the auditor's specialty variance coefficient based on the pattern of the total assets in the financial reporting quality model (indicator probability with an error level of less than .5). Since this coefficient is positive, indicators show that the auditor's specialty has a meaningful and positive impact with the effectiveness level of 0.05 in model 1 and the effectiveness level of 0.128 on the financial reporting quality. This means that the auditor's industry specialty increases the probability for financial reporting with a high quality.

*4.2 Discussion*

In this study, the main hypothesis states that the auditor's industry specialization has a significant impact on financial reporting quality. Based on the collected observations from the statistical sample and hypothesis tests using the Logit regression analysis, the main hypothesis of the impact of the industry specialized auditor on financial reporting quality was not rejected. With regard to the probabilities' theory, the results can be applied to the statistical group and it can be stated that the amount of the auditor's industry specialty has a direct impact on

financial reporting quality of the companies. This result is in the same direction as the financial and accounting literature. Based on the collected observations from the statistical sample and hypothesis test using the Logit regression analysis, the research's first subsidiary hypothesis of the impact of the auditor's industry specialty (based on the pattern of the market share based on the total audited assets of the company) on financial reporting quality was not rejected. With regard to the results of this hypothesis, it can be stated that the approach of the market share based on the total audited assets of the company introduces an industry specialized auditor as an auditing institution distinguished from other competitors in terms of the total audited assets of the company in a certain industry. Based on the collected observations from the statistical sample and using the Logit regression analysis (based on the pattern of the market share based on the total auditor's fees) on financial reporting quality was rejected.

## 5. Conclusion

Results of the hypotheses' tests showed that the auditor's industry specialty (based on the pattern of the market share based on the auditor's total fees) has no meaningful impact on the financial reporting quality of the statistical sample companies of this research. But, if the auditor's industry specialty (based on the pattern of the total audited assets of the company) was to be evaluated, it would have a significant impact on financial reporting quality. Therefore, it is concluded that the variance of the auditor's industry specialty is sensitive to the type of the utilized coefficient used to evaluate it. Findings of this research apply with similar researches by Krishnan (2003), Balsam et al. (2003), Karslvonagi (2004), Francis et al. (2004), Jenkins et al. (2006), Almoteiri et al. (2009), Choueiri et al. (2010), Karjalynn (2011), Sun and Liu (2013), Etemadi et al. (2009), Nazemi Ardakani (2012) and Alavi Tabari and Bazrafshan (2013). The results of the researches by the studies above in general state that the industry specialized auditors' clients have lower voluntary commitment items, higher profitability quality and less profit management in comparison with the non-specialized auditors. As a result, it can be deducted that the clients' financial reporting quality which have the advantage of industry specialized auditors is more. Finally, this research contradicts the results from the research done by Hasas Yeganeh et al. (2012). The results of their research showed that there is no significant difference between the informational content of the profit's commitment and financial parts in companies with industry specialized auditors with other companies.

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# Depression, Loneliness and Cognitive Distortion among Young Unwed Pregnant Women in Malaysia: Counseling Implications

Rohany Nasir[1], Zainah Ahmad Zamani[1], Rozainee Khairudin[1], Wan Shahrazad Wan Sulaiman[1], Mohd Norahim Mohd Sani[1] & Aizan Sofia Amin[1]

[1] School of Psychology & Human Development, Faculty of Social Sciences & Humanities, Universiti Kebangsaan Malaysia, Bangi, Malaysia

Correspondence: Rohany Nasir, School of Psychology & Human Development, Faculty of Social Sciences & Humanities, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi, Selangor, Malaysia. Tel: 603-8921-5202. E-mail: rohany@ukm.edu.my

## Abstract

Inability to meet the demands and challenges resulting from the rapid social and economic growth bring about social and psychological problems among youths and their families. One of the problems that young women are facing now is unwed pregnancies. Unwed pregnancies bring about negative social and psychological effects. The objective of this quantitative study is to ascertain the relationships among depression, loneliness and cognitive distortion. Respondents for this study were 150 young unwed pregnant women whose age ranged between 14 and 29 years old who were placed in shelters for unwed pregnant women run by the Social Welfare Department and various non governmental agencies throughout Malaysia. Four research instruments were used namely: Information on the respondents' background, UCLA Loneliness Scale, Reynolds Adolescents Depression Scale (RADS) and Cognitive Distortion Scale (CDS). Results of the study showed that there were positive significant correlations between depression and loneliness, depression and cognitive distortion and loneliness and cognitive distortion. This paper also discussed the implications of the research findings on counselling and psychotherapy for the unwed pregnant women. Counselling and psychotherapy should focus on giving strength and hope for the young women to rebuild their life.

**Keywords:** Unwed pregnant women, depression, cognitive distortion, loneliness

## 1. Introduction

The rapid social, physical and economic changers can be very demanding and challenging on young people and their families. Failure to meet the demands and challenges may result in all kinds of social and psychological problems. In the United States of America unwed pregnancies was identified as one of the most serious and complex social problems (Coles, 2006). Unwed pregnancies bring about negative psychological effects on both mothers and their babies (Baber, 1994).

Pregnancies interfere with the adolescents' education (de Anda & Becerra, 1984; Hoffman et al., 1993) and affect them financially. They become economically dependent on their parents and the public (Medora & von der Hellen, 1997). Pregnancies caused them to abandon their dreams, vision and inspiration (Ugoji, 2013).

In Malaysia the number of newborn babies being abandoned is quite shocking (Hayward, 2011). A significant number of babies being abandoned were that of unwed pregnancies (Kawi, 2011; Nor Jana Saim et al., 2013; Sarnon et al., 2012). The unborn child would have problems with weight, neurology, health (Sarnon et al., 2012) and cognitive functioning (Free, 1989). Malaysia is a Muslim country which strongly disapproves premarital sex. Hence unwed pregnancy is viewed negatively. In fact, in Asian countries, unwed pregnancies is looked with disgust at the same time brought about shame to the families involved (Triwulan, 2009; Wang, 1997).

Research conducted on pregnant adolescents concluded that pregnant adolescents, are at greater risk for symptoms of depression than pregnant adults (Thomas et al., 1990). Depression may be related to cognitive distortions, stressful life events, and physiological states. The perception of not being able to control outcomes may cause a person to feel helpless and depressed (Lau et al., 1999). This supports Bandura's (1982) assertion that depression is cognitively caused by dejected ruminative thoughts and also low sense of efficacy to have a

control on the thoughts.

A large number of researches have proven that individuals who suffer from depression reported poor self-efficacy, low self-esteem, feelings of worthlessness, an external locus of control, and experience of guilt or shame over their limitations (Wardle et al., 2004; Beck, 2003). Elek and Grossman (2000) on the other hand pointed out that loneliness is related to depression. Heinrich and Gullone (2006) indicated that loneliness is associated with symptoms of poor mental health such as depression. Loneliness has been shown to be strongly associated with depression, anxiety and interpersonal hostility (Hansson et al., 1986).

Depression, low self esteem, loneliness and need for social support are quite common among unwed pregnant women (Barnet et al., 1996; Hudson et al., 2000). Both loneliness (Beck, 1963) and depression result in negative consequences including suicide. Prolonged loneliness sets off depression (Huseyin, 2009) and depression and loneliness can become a vicious circle (Huseyin, 2009). Loneliness had long been recognized as a strong correlate of depressive symptoms (Kawi, 2011; Siti Nor Yaakob et al., 2009) and loneliness is a risk factor for depression (Nolen-Hoeksema, & Ahrens, 2002). The relationship between loneliness and depression appears to be stable (Nolen-Hoeksema, & Ahrens, 2002).

Depression and cognitive distortion was found to be related in juvenile delinquents (Nasir, et al., 2010) and cognitive distortion predicts depression (Nasir et al., 2011) among adolescents. Depression is a widespread disorder specifically among adolescents and this is alarming for mental health professionals (American Psychiatric Association, 2000). Depressed adolescents tend to have negative thinking (Beck, 1963; Beck, 1964) and may be created by cognitive distortions, stressful life events, and physiological states and significantly greater cognitive distortion than non-depressed adolescents (Marton, 1993).

Studies had also found relationship between loneliness and cognitive distortion. The studies had focused on cognitive aspects to explain loneliness. Positive relationship between irrational believes which reflects cognitive distortion was found with loneliness (Karameh & Al-Ammar, 2013). Research conducted by Hamamci & Duy (2007) found that cognitive distortions especially regarding interpersonal rejection have negative effects on the experience of loneliness. What it means is that the perception that one is being rejected will make one feel more isolated and hence results in feeling lonelier. Further, unrealistic beliefs which can be categorised as a form of cognitive distortion were also found to be a strong predictor of loneliness (Halamandaris & Power, 1997).

Generally, studies outside Malaysia and on other populations had shown relationships between depression and loneliness and cognitive distortion and depression. Therefore, it is the aim of this study to ascertain whether relationships exist between depression, loneliness and cognitive distortion among unwed pregnant young women in Malaysia. The hypotheses are: a) there is a relationship between depression and loneliness, b) there is a relationship between depression and cognitive distortions and c) there is a relationship between loneliness and cognitive distortions.

## 2. Method

### 2.1 Background of the Respondents

Respondents for this study were 150 young unwed pregnant women whose age ranged between 14 and 29 years old. Most of the respondents or 138 were from the Malay ethnic background and the rest were Chinese and Indians. In terms of their place of origins, 98 of them were from the urban areas while the rest were from the rural areas. They were placed in shelters for unwed pregnant women run by the Social Welfare Department and various non governmental agencies throughout Malaysia. The respondents or their guardians had to sign a consent form before they could participate in the study.

### 2.2 Measures Used in the Study

Four research instruments were used namely: Questions on the background of the respondents, UCLA Loneliness Scale (Russell, et al., 1980) (Cronbach Alfa, 0.96), Reynolds Adolescents Depression Scale (RADS) (Reynolds, et al, 1998) (Cronbach Alfa, 0.88) and Cognitive Distortion Scale (CDS) (Briere, 2000) (Cronbach Alfa, 0.85). The instruments were translated into the Malay language by using the back translation technique (Brislin, et al., 1973).

### 2.3 Research Procedure

Written permissions from the Social Welfare Department and various non governmental agencies had to be obtained before embarking on this research. Once the permissions were obtained, the respondents who were going to participate in the study were identified. Questionnaires were distributed to the respondents once they or their guardians signed the written consents forms. The whole process of collecting the research data took six

months to complete. Once collected the data was processed using SPSS Version 22.0.

## 3. Results

Table 1 presents the correlations between depression and loneliness, depression and cognitive distortion, cognitive distortion and loneliness. The table shows that there are significant positive relationships among depression and loneliness, depression and cognitive distortion and loneliness and cognitive distortion.

Table 1. Correlations among depression, loneliness and cognitive distortion

| Variable | 1 | 2 | 3 |
|---|---|---|---|
| 1. Depression | - | | |
| 2. Loneliness | .367** | - | |
| 3. Cognitive Distortion | .516** | .404** | - |
| *p < .05 | | | |

The results of the study as reflected in Table 1, shows significant positive correlations between depression and loneliness (r = .367, p<.05), loneliness and cognitive distortion (r = .404, p<.05) and depression and cognitive distortion (r = .516, p < .05). The results therefore indicate that the more depressed the unwed women are the more lonely they get and the higher their cognitive distortion. The three variables are all related. This finding is consistent with other studies which found that cognitive distortion was associated with depression such as (Marton, & Kuthcher, 1993) on the prevalence of cognitive distortion in depressed adolescent; Nasir et al.'s (2011) study on juvenile delinquents and other studies by Maxwell, Gatchel, and Mayer (1997). Nasir et al.'s (2010) & Wong (Wong, 2008) showed relationship between depression and cognitive distortion. Relationship between loneliness and depression was seen in the findings of studies by Cacioppo et al.'s (2006); Siti Nor Yaakob et al.'s (2009).

Results of this study is supported by studies in the past on unwed pregnant women Barnet et al.,(1996); Nasir et al.'s (2011), which showed that unwed pregnant women have a tendency to experience symptoms of depression. Their findings support that of Hudson et al. (2000).

## 4. Discussion

Results from this study found that the unwed pregnant women tend to experience loneliness during their stay in the shelters. Their feeling of loneliness led to depression. It is also expected that the unwed pregnant adolescents experienced loneliness because they were being placed in the shelter home away from their homes and families. It is quite expected for them to feel alienated from the rest of the world as the purpose of placing them in the shelter in the first place was to get them away from the public. This was done so that nobody would find out about their condition. Families find that it is necessary to protect the unwed pregnant women and their families from being humiliated and despised by friends, neighbours and the community at large. For victims of incest and rapes it was mandatory for them to be at the shelter until they have given birth and ready to be sent home. One of the reasons being is to protect them from the perpetrators.

It is not unusual for the unwed pregnant young women to perceive that there is no future and hopes for them, which is a reflection of distorted thinking. It is also somewhat expected for them to feel depressed and lonely since they were isolated from families and friends. As such, it is crucial to assist the young women on what options are available to them and how to disclose their condition to family members (Hayward, 2011; Treffers et al., 2001). A lot of encouragement and motivation are also needed to give them hope for the future.

Results also show significant relation between depression and cognitive distortion. This suggests that cognitive distortion in depression is associated with greater social phobia and more negative expectations of social interactions. Depression may cause low self-efficacy, low self-esteem, feelings of worthlessness, an external locus of control, and experience guilt or shame over their limitations (Wardle et al., 2004; Beck, 2003). Hence, counselling should also focus on dealing with problems and issues related to distorted, negative and irrational thoughts. The premise of cognitive therapy is that psychological problems are caused by dysfunctional cognitions such as irrational beliefs (Beck et al., 1979; Ellis, 1977). Cognitive behaviour therapy would seem to be most appropriate in changing cognitions from negative, distorted or unrealistic to normal thinking patterns. The restructuring and modifying of these thoughts can help to minimize the expected negative effects being experienced (Nasir et al., 2010).

## 5. Counselling Implications

Researchers have linked loneliness to depression, anxiety, interpersonal hostility, not feeling healthy, suicide, alcoholism, poor self-concept, and psychosomatic illness (Archana & Nishi Misra, 2012; Lasgaard et al., 2011). As such, counselling with the unwed women should address the feelings of loneliness and depression while at the same time corrects their distorted thinking. Harington et al.'s (Harington et al., 1980) suggested that depressed adolescents are at greater risk of developing into depressed adults.

Group counselling would help to encourage sharing among the young women. Empathy and understanding from the counsellors as well as the group members would enable the women to feel that they were connected and being understood. This will help overcome the feeling of loneliness and alienation. Furthermore, Pettigrew and Roberts (2008) suggest that loneliness can be reduced by getting emotional support from friends and family members.

Person-centred therapy by a non-judgemental counsellor will give ample opportunities for the young women to share their feelings and thoughts about their experiences of depression and loneliness. Non-judgmental counselling would be helpful in order to make them feel unconditionally accepted and empathised despite being judged and rejected by the society. They should also be guided as to how to cope with unexpected pregnancy by helping them to manage their anxieties and pressures that they encountered (Hayward, 2011).

## 6. Conclusion

Very often we find that unwed pregnant women experienced feelings of loneliness and alienation, depression and cognitive distortion. Findings from this study had shown support for the previous studies whereby the three variables are related. Group counselling should focus on the three issues and giving strengths and motivation to the young mothers to help them build back their lives.

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# Is Access to Agribank Credit an Effective Tool in Improving Household Income? Evidence from the Northern Mountainous Region of Vietnam

Do Xuan Luan[1,2], Nguyen Thanh Vu[1,3], Kieu Thi Thu Huong[1,2], Duong Thi Thu Hang[3] & Siegfried Bauer[1]

[1] Institute of Project and Regional Planning, Justus-Liebig-University, Germany

[2] Faculty of economics and rural development (FERD), Thai Nguyen University of Agriculture and Forestry (TUAF), Vietnam

[3] Thai Nguyen University of Economics and Business Administration (TUEBA), Vietnam

Correspondence: Do Xuan Luan, Faculty of economics and rural development (FERD), Thai Nguyen University of Agriculture and Forestry (TUAF), Group 10, Quyet Thang commune, Thai Nguyen city, Vietnam. Tel: 84-09-8780-7896. E-mail: doxuanluan@tuaf.edu.vn; doxuanluan@gmail.com

## Abstract

Access to credit has been thought to be a key factor in rural development and poverty reduction. In Vietnam, the Vietnam Bank for Agriculture and Rural Development (Agribank) emerged from the mono-tier banking system in 1988 and performs as a profit-oriented commercial bank sustaining the development of rural areas. During the last two decades, the bank has clearly expanded its share of credit outstanding in total rural credit market volume and this process is in line with the trending development of the national economy. The aim of this study is to examine whether Agribank credit improves household income in the Northern Mountains of Vietnam, where the poor and ethnic minorities are overrepresented in the population. In order to create robust estimates, a joint consideration of all four matching algorithms (nearest-neighbor matching, radius matching, Kernel matching and stratification matching) is applied to the Propensity Score Matching. The study found that access to extension services, ethnicity, and total savings emerged as reliable predictors of credit access among household endowments. Loan volumes increase with total value of household assets. In addition, the impact of credit lies in the range increase of 14.56% to 43.78% of total income, 12.09% to 51.83% of per capita income and 43.64% to 111.60% of nonfarm income of household with credit access. The agricultural bank credit has contributed in improving household income in the Northern Mountains of Vietnam. Results in this study provide further support for the hypothesis that the remarkable progress in poverty reduction in the last two decades in Vietnam is partly attributed to the development of Agribank credit. Experiences of the Agribank in lending to rural areas could be worthwhile for intermediary financial institutions to support rural development in Vietnam.

**Keywords:** Agribank, household income, northern mountains, rural credit, Vietnam

## 1. Introduction

Access to credit is believed to benefit rural households in several ways. So far, numerous studies have shown that credit helps farmers adopt new technology and improve nutritional health and education of children (Jacoby & Skoufias, 1997; Morduch, 1999; Pitt & Khandker, 1998). Access to production credit greatly increases household willingness to invest in higher value crops and livestock. Credit is significant for farmers to buy necessary inputs such as fertilizer, seed, crop varieties, pesticides, animal feed and so on to improve farming productivity (Zeller et al., 1998). One study by Hazarika and Alwang (2003) found that credit helps farmers shift their labor-intensive technologies to capital-intensive technology via investments in machinery and new varieties. In addition, credit can complement agricultural extension services to make farming production more efficient.

However, the role of credit in poverty reduction as well as farm development depends on specific contexts. Different countries have different pathways of developing rural credit markets. In Vietnam, after gaining independence in 1975, the economy was characterized by the central planning model, or command model, which centralized both production inputs and commodities in the form of collective ownership. Market transactions were highly regulated and extremely underdeveloped. The provision of credit to government projects, which run in the absence of incentives, led to high default rates. As a consequence, a continual decline in the production of

rice and other commodities as well as hyperinflation led to the collapse of the economy including the credit cooperatives (Seibel, 2003). The severe food shortages, trade deficits, aid cuts and budget deficits, high inflation and a declining per capita income were all problematic for the country during that time (Van Brabant, 1990). The collapse of the whole economy in the 1980s created great pressure on policy makers in Vietnam. In response to the crisis, the government introduced a new policy called "Doi Moi" or "renovation", which opened market transactions. Households were regarded as "independent economic units" and household members could acquire loans. Also, hunger eradication and poverty alleviation were great concerns leading to the establishment of formal financial institutions like the Vietnam Bank for Agriculture and Rural Development or the Agribank (Dufhues et al., 2001).

Agriculture and rural areas play an important role in the national development of Vietnam. The agriculture sector contributes to more than 22% of Gross Domestic Product (GDP), 30% of exports and 52% of all employment. The agricultural growth contributed to improve household income, as around 70% of the Vietnamese population is engaged in farming activities (GSO, 2014).The Vietnamese government has paid considerable attention to rural poverty reduction. It has adopted for this purpose a number of credit schemes because rural households see capital shortage as the greatest constraint to expand production and improve their livelihood. As a result, rural credit in general and Agribank credit in particular expanded remarkably since the establishment of the bank (Figure 1). The Agribank is a good illustration of the transformation from the mono-tier banking system to a system of banks operating on the basis of market principles in 1988 (Seibel, 1992). Central to the establishment of the Agribank are the market principles to reduce subsidized directed credit programs in rural areas. The bank is a successful case in providing financial services to a majority of rural inhabitants as well as supporting rural development projects such as rural infrastructural development.
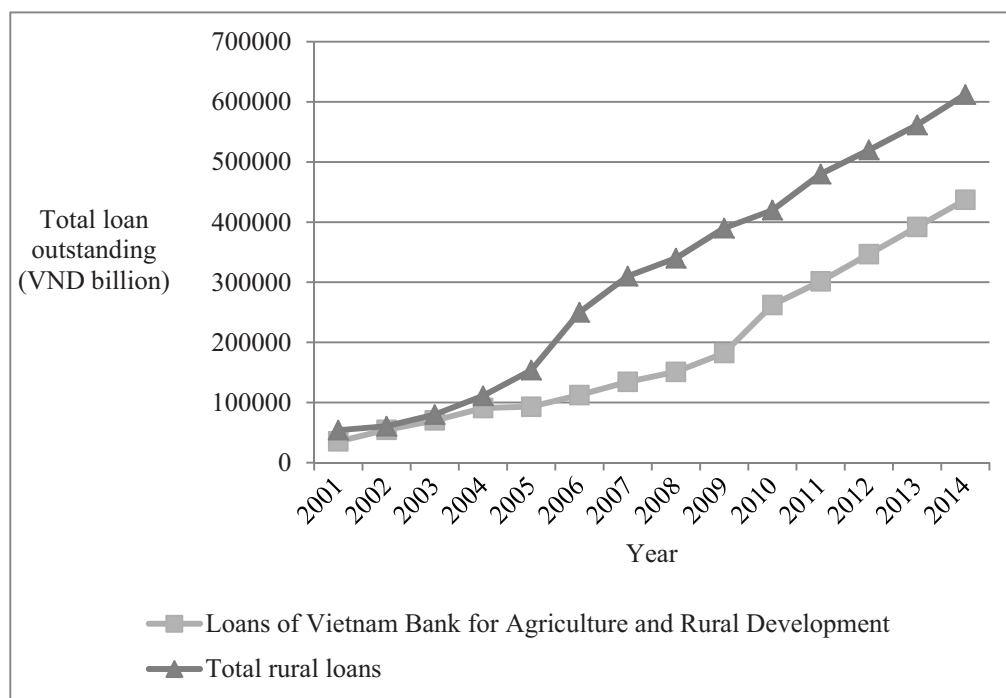


Figure 1. Expansion of rural credit in Vietnam for the period 2001-2014

Source: Own calculation based on Vietnam's General Statistics Office and annual reports of Agribank for the period 2001-2014

The Agribank is the leading bank in Vietnam in terms of fund resources, assets and loan outstanding disbursed to rural areas. It has made up a high market share of rural credit market in Vietnam (Figure 2). Currently, the Agribank is the leading credit provider in the rural credit market of Vietnam. In 2008, 45% of its deposits were mobilized from the city and 55% from the savings from rural areas. By the end of 2014, the Agribank made up 70% of credit market share in terms of total loan outstanding in rural Vietnam. It has provided a full range of services including both credit and savings to total 10 million households, of which 4.7 million are low-income

households which have per capita monthly income of around 1 VND million or around $50 (GSO, 2014). Funds mobilized from the population represented 60.60% of capital structure and the bank has covered 45.29% of total rural households with formal savings in Vietnam (Agribank, 2014). The outstanding loans to agriculture, farmers and rural areas reached VND 437 265 billion (around $15 billion), a 26% increase compared to 2012, accounting for nearly 70% of the Agribank's total loan portfolio.

The expansion of the Agribank credit to rural areas could be one of the factors explaining the remarkable achievement in poverty reduction during the last two decades in Vietnam. The poverty headcount rate has reduced from nearly 60% of the population in 1993 to 8.4% in 2014 (GSO, 2014). The main objectives of this study are to identify which household endowments influence access to Agribank credit and to know whether the provision of said credit improves household income in disadvantaged rural areas of the country. If the Agribank is an effective tool in improving household income, then looking at its experiences in rural credit development is worthwhile.
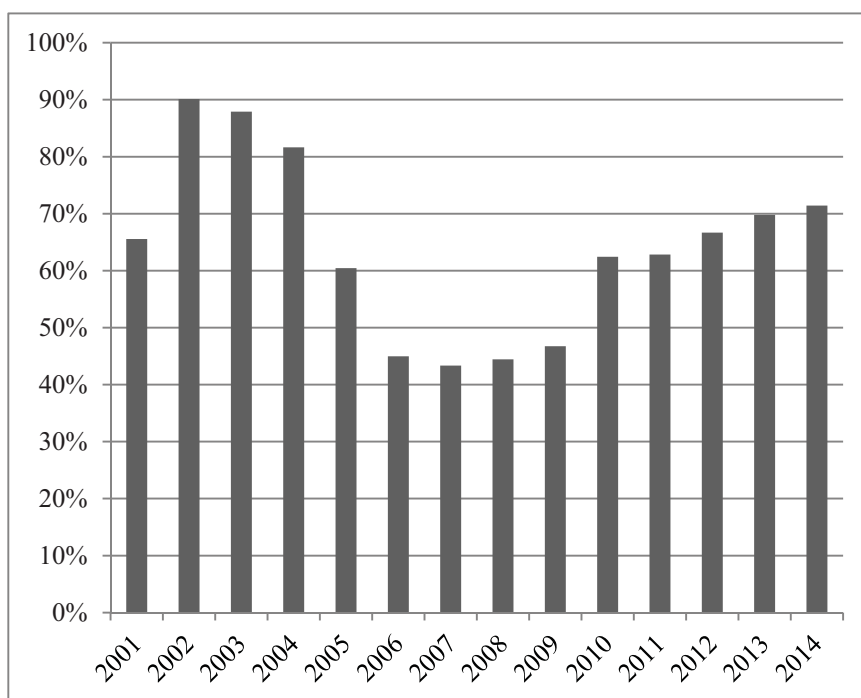


Figure 2. Market share of the Agribank credit in total rural credit market in Vietnam (% of total rural loan outstanding)

Source: Own calculation based on the Vietnam's General Statistics Office and annual reports of the Agribank for the period 2001-2014

## 2. Data and Method

### 2.1 Data

This study uses observational data drawn from the 2012 round of the Vietnam Access Resources Household Survey (VARHS). The survey aims at exploring the living conditions of rural households, especially the poor and ethnic minorities in Vietnam. The survey was jointly conducted by three Vietnamese organizations including the Institute for Policy and Strategy for rural development (ISPARD), the Central Institute for Economic Management (CIEM) and the Institute for Labour Science and Social Affairs (ILSSA). It covers a total of 3700 sampled households in 12 provinces and all relevant costs of the survey were financed by the Organization of the Danish International Development Assistance (DANIDA). The sampling techniques and data cleaning were supported by the Department of Economics at the University of Copenhagen.

This study uses data of 1338 households from four provinces including Lai Cai, Phu Tho (North East), Lai Chau and Dien Bien (North West) in the Northern Mountains of Vietnam. The region is comparably less developed than other regions of Vietnam. The region, comprising of 15 provinces, is the second largest area in Vietnam. It

makes up nearly 29% of the total national area and is characterized by a high proportion of rural residents (see Table 1 for further details). Another characteristic of the region is that there is a higher number of ethnic minorities compared to other regions of the country. In 2012, the Vietnamese population was around 87.84 million people, of which ethnic minorities accounted for about 14.5% (GSO, 2012) and the remaining 85.50% were the Kinh majority population. Around fifty percent of Vietnam's minorities live in the Northern Mountains and most of them remain rural residents (World Bank, 2009). Ethnic minorities include Tay, Nung, Dao, and H'Mong, among other groups. In the total population in the region, the Kinh majority people account for 66.1%, Tay ethnic people represent 12.4%, Nung 7.3%, Dao 4.5%, and H'Mong 3.8% (GSO, 2012). Poverty, low agricultural productivity, and land degradation remain major problems for the minority community.

Table 1. Socio-economic indicators of the Northern Mountains in relation to other regions and the whole country in 2014

| Indicators | The Northern Mountains | Whole country | Rank in 6 regions of Vietnam (1: highest; 6: lowest); | Difference | |
| | | | | Absolute | Percentage |
| (1) | (2) | (3) | (4) | $(5) = (2) - (3)$ | $(6) = \dfrac{(2) - (3)}{(3)} * 100\%$ |
| *Area and population* | | | | | |
| Area (km2) | 95266.8 | 330966.9 | 2 | -235700.10 | -71.22 |
| Average population (thousands persons) | 11667.5 | 90728.9 | 5 | -79061.40 | -87.14 |
| Rural population (thousands persons) | 9595 | 60693.5 | 2 | -51098.50 | -84.19 |
| Share of rural population (%) | 82.24 | 66.90 | 2 | 15.34 | 22.93 |
| Population density (people/km2) | 122 | 274 | 5 | -152.00 | -55.47 |
| Percentage of literate population at 15 years of age and above (%) | 89 | 94.7 | 6 | -5.70 | -6.02 |
| *Farming activities* | | | | | |
| Production of cereals per capita (kg) | 447.9 | 552.9 | 2 | -105.00 | -18.99 |
| Yield of paddy (Quinta/ha) | 48.4 | 57.6 | 5 | -9.20 | -15.97 |
| Yield of maize (Quinta/ha) | 36.7 | 44.1 | 6 | -7.40 | -16.78 |
| *Income and poverty* | | | | | |
| Monthly income per capita (1000 VND) | 1613 | 2640 | 6 | -1027.00 | -38.90 |
| Month expenditure per capita (1000 VND) | 1537 | 1888 | 6 | -351.00 | -18.59 |
| Poverty rate (% of households) | 18.4 | 8.4 | 1 | 10.00 | 119.05 |

Note. Poverty rate in 2014 by the government's poverty lines: VND 605 thousand per capita per month for the rural area and VND 750 thousand per capita per month for the urban area.

$1000\,VND \approx \$0.045$

Source: (GSO, 2014)

Farming in the region is characterized by a particularly small scale. Crop diversification is a common characteristic of farm households. A variety of other crops such as starchy crops (maize, potatoes, cassava), vegetables and industrial crops (soybeans, peanuts), fruit, and tea are cultivated to meet household consumption needs and for sale. Rice, a crucial crop for food security, is mostly grown to meet household subsistence demand. Fruits and vegetables are also grown in household gardens. Industrial crops, on the other hand, are planted purely for sale.

With respect to livestock production, a variety of pigs, cattle, buffalo, chickens, and ducks are kept as the main species of livestock. Households rear multiple types of livestock including cow, buffalo, horse, pigs and chickens. Pigs are the most common species kept by the majority of households. The main manure source for pig production can be used for crop production. In spite of the fact that pigs are raised to meet market demand for pork, pig rearing is characterized by its small scale. Poultry including chicken and duck are also main sources of food for household consumption and market sale. These species with a shorter life span are considered to be liquid assets for households. Keeping livestock depends on the availability of resources such as labor, animal feed, supplementary feeds from crop production, and especially capital.

*2.2 Method*

2.2.1 Conceptual Framework

This section presents the conceptual framework of the study. Accordingly, household capital, comprised of human, financial, physical and social capital, is the main determinant of household likelihood (Bhandari, 2013). Those forms of capital are also assumed to influence household credit accessibility. In return, access to credit is assumed to change the resources and activities of farm households in a positive way, which achieves better household outcomes. Credit might lead to a change in household behavior to use household capital to obtain greater income.
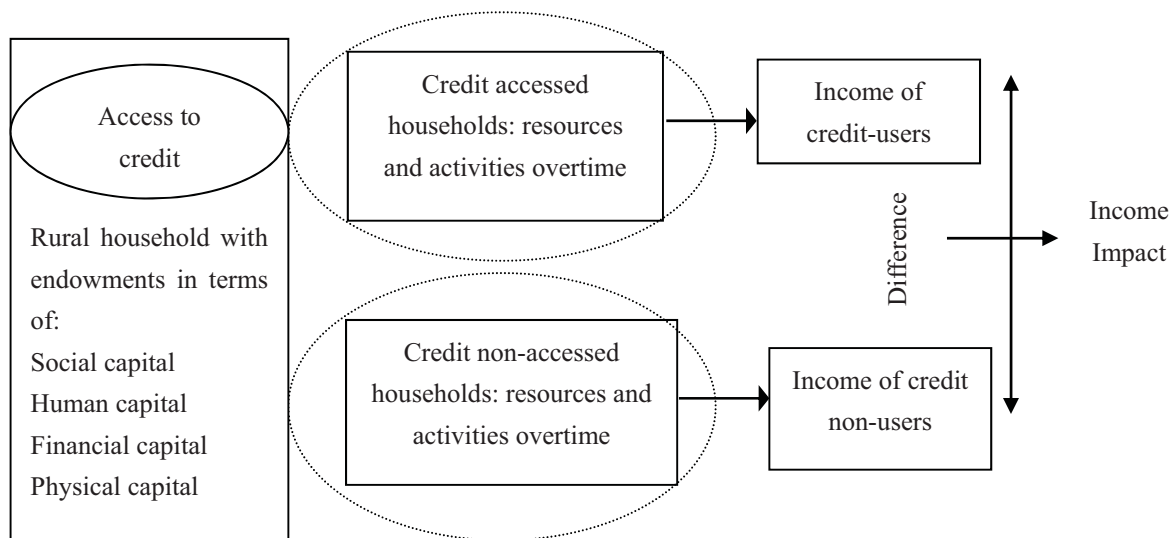


Figure 3. The conceptual framework of the study

Source: Adapted and modified from Hulme (2000)

Numerous studies have shown that credit helps farmers adopt new technology and improve nutrition and education of children (Jacoby & Skoufias, 1997; Morduch, 1999; Pitt & Khandker, 1998). Access to credit thoroughly increases household willingness to invest in higher value crops and livestock. Credit is significant for farmers to buy necessary inputs such as fertilizer, seed, crop varieties, pesticides, and animal feed to improve farming productivity (Zeller et al., 1998). In addition, credit is a precondition to adopting agricultural extension services. All of the studies reviewed here suggest a type of impact studies, which is based on investment direction.

The choice of methods used in this study depends very much on the observational data type from the household survey. One methodological concern of this study is that potential selection bias might emerge because participants and non-participants in credit schemes are selected with different outcomes and characteristics.

Therefore, selection bias can be due to differences in the distributions of characteristics between credit recipients and credit non-recipients groups (or comparison groups). The selection of a comparison group which is not representative of the population can create control selection bias. Outcomes of both households with and without credit access might have already occurred at the time households are selected for study inclusion. In order to address the problem of sample selection bias, this study employs a Heckman Selection Model to analyze determinants of credit access. In addition, the study uses Propensity Score Matching (PSM) which can reduce selection bias by equating both groups of households with and without credit access based on many known characteristics and provides an alternative method for estimating income impact of credit when access to credit is not random. The random selection of surveyed households make two those analytical techniques, which will be discussed in the next section less prone to selection bias.

2.2.2 Heckman Selection Model

The choice of the Heckman Selection Model to solve the bias problem has been demonstrated by a report by Heckman (1979). The first step in this model was to analyze the factors affecting the household decision to use credit by applying the probit model. After estimating this model, the Mill ratios were computed. The second step used to identify determinants of credit amount involved the inclusion of the Mill ratios into the following loan equation to adjust for sample selection bias.

$$Y_i = \beta X_i + \varepsilon_i \tag{1}$$

In Formula 1, $Y_i$ is the loan amount and observed only for households who received loans. $X_i$ represents observed household characteristics and $\varepsilon_i$ is an error term. The Heckman selection model also uses the following assumptions:

$$(\varepsilon, u) \sim N(0,0, \sigma 2\varepsilon, \sigma 2u, \rho\varepsilon u) \tag{2}$$

Both error terms are normally distributed with a mean of 0, variances as indicated and the error terms are correlated where ρεu indicates the correlation coefficient; (ε,u) is independent of X and Z; The expected loan size may be written as follows:

$$E(Y_i/T_i = 1) = E(L_i/T_i > 0) = E(Y_i/U_i > -\gamma Z_i) = \beta X_i + E(\varepsilon_i/u_i > -\gamma Z_i) \tag{3}$$

In terms of (3), $T_i=1$ represents households with credit access and $E(Y_i/T_i = 1)$ is the expected loan size of those households. Also in the equation, the problem comes from $(\varepsilon_i/u_i > -\gamma Z_i)$. The error term u is restricted to be above a certain value. Those households that do not satisfy this restriction are excluded from the regression. This becomes a problem because of the assumption in (16) that the error terms are correlated where ρεu indicates the correlation coefficient. Heckman's first insight in his 1979 econometric paper was that this can be approached as an omitted variables problem, where $(\varepsilon_i/u_i > -\gamma Z_i)$ is the 'omitted variable' in (3). An estimate of the omitted variable would solve this problem and hence solve the problem of selection bias. Specifically we can model the omitted variable by:

$$E[(\varepsilon_i/u_i) > -Z_i\gamma] = \rho\varepsilon u \sigma\varepsilon \lambda_i(-Z_i\gamma) = \beta\lambda\lambda_i(-Z_i\gamma) \tag{4}$$

In this formula, $\lambda_i(-Z_i\gamma)$ is 'just' the inverse Mill's ratio evaluated at the indicated value and βλ is an unknown parameter (=ρεuσε). The inverse Mill's ratio needs to be calculated and added to the estimation of equation (1).

2.2.3 Propensity Score Matching

Many previous studies have utilized regressions to measure impact. However, the bias and sensitivity of functional forms that occurs from using the simple regression methods has been demonstrated in reports by Imbens and Rubin (2015) and Blundell and Dias (2009). The Propensity Score Matching is particularly useful in offering an effective way of comparing the outcomes between groups with similar characteristics (Huber et al., 2013).

The key assumption of PSM is that credit recipients and non-recipients with similar characteristics should also have the same income. In theory, a pair of comparable households should be quite similar in terms of their characteristics, except for credit access. The matching approach aims to separate the credit impact by making two household groups comparable. The welfare impact is denoted by the Average Treatment Effects on the Treated (ATT). In empirical estimations, each credit recipient i is matched with non-recipient j and their outcome $Y_0$ is weighted by w (i,j). ATT is calculated as follows:

$$ATT = \frac{1}{n_1} \sum_{i \in (D=1)} \left[ y_{1,i} - \sum_{j} w(i,j) y_{0,j} \right] \tag{5}$$

Where:

$n_1$ is the number of matched recipients;

$Y_{1i}$ is the outcome for the matched recipient i;

$Y_{0j}$ is the outcome for the matched non-recipient j; and w(i,j) are weights.

In the PSM, a variety of matching approaches including the nearest-neighbor matching, radius matching, Kernel matching and stratification matching have been used to measure the effects of credit. The idea of nearest-neighbor matching is that each treated unit is matched with the nearest neighbor of a control unit. Based on this algorithm, the individual non-recipient is selected as a matching partner for a recipient that is closest in terms of propensity score. The second approach is radius matching, which uses all observations of a control group within one radius such as 0.001. In other words, each recipient is matched with a non-recipient that falls within a specified radius. A smaller radius can improve the quality of matching because matched non-recipients have closer scores to recipients (Caliendo & Kopeinig, 2008). In Kernel matching, all observations for control groups are used to match with each treated unit. Closer control units are imposed by higher weights and further units are incorporated by lower weights (Imai et al., 2010). In this study, each credit recipient is matched with several credit non-recipients, with weights inversely proportionate to the distance between accessed and non-accessed households. The purpose of stratification matching is to compare the outcomes within intervals or blocks of propensity scores. It requires that the average propensity scores of recipients and non-recipients are not statistically different. Becker and Ichino (2002) revealed that the covariates are balanced and the assignment to treatment can be considered random by construction in each block. Each has its advantages and drawbacks. Their joint consideration, however, offers a way to assess the robustness of the estimates (Becker & Ichino, 2002). The distribution for the ATT estimator is additionally constructed using a bootstrapping approach in order to increase the reliability of estimation measures.

## 3. Results

### 3.1 Descriptive Statistics

#### 3.1.1 Household Endowments

This analysis excludes 245 recipients of subsidized credit, 6 recipients of Pepple's Credit Fund and 80 recipients of informal credit in order to separate the income impact of Agribank credit. Regarding total household income, a total of 114 household observations of outliers were removed to smooth data for better impact estimations. To help distinguish income differences between credit recipients and non-recipients, households are classified into two categories according to their access to credit. The differences in household endowments between the two groups are of interest because they might explain the variations in credit accessibility. Wilcoxon rank sum and Pearson Chi squared tests were used to analyze the differences between credit recipients and non-recipients (see Table 2 for further details).

Table 2. Difference in household endowments between households with access to credit and those without

| Variables | All sample (n=899) | Recipient households (n=54) | Non-recipient households (n=845) | Wilcoxon rank-sum, Pearson chi2 tests |
|---|---|---|---|---|
| Number of household visits to agricultural extension in the last 12 months (number) | 1.788654 (1.748001) | 3 (3.670381) | 1.711243 (1.518271) | 2.667[***] |
| Family size (persons) | 4.860957 (2.139255) | 4.092593 (2.030601) | 4.910059 (2.137779) | -3.121[***] |
| Ethnicity of household heads (1= ethnic minorities) | .7185762 (.449944) | .4074074 (.4959656) | .7384615 (.4397328) | 27.5078[***] |
| The distance of the household to the commune center (km) | 3.974505 (5.945355) | 2.631481 (4.145187) | 4.060331 (6.033823) | -3.091[***] |

| Age household heads (years) | 48.40378 | 46.51852 | 48.52426 | 0.569 |
|---|---|---|---|---|
| | (14.19952) | (10.66424) | (14.39247) | |
| General education of household heads (years in school) | 9.01891 | 8.703704 | 9.039053 | - 1.315 |
| | (3.729238) | (2.311821) | (3.801925) | |
| Share of nonfarm-nonwage income in total household income (%) | .8105998 | .8515776 | .8079811 | 0.299 |
| | (.3596798) | (.2941646) | (.3634536) | |
| Households exposure to any types of shocks (1= Yes) | .6985539 | .6666667 | .7005917 | 0.2774 |
| | (.4591414) | (.475831) | (.4582701) | |
| Economic losses due to shocks (VND 1000) | 3943.91 | 1893.5 | 4074.942 | - 1.129 |
| | (8584.857) | (2918.038) | (8808.761) | |
| Total value of savings (VND 1000) | 7814.56 | 7054.259 | 7863.147 | -1.462 |
| | (27227.26) | (20481.96) | (27611.07) | |
| Total value of household asset (VND 1000) | 11810.55 | 12985.19 | 11735.49 | 0.612 |
| | (12771.99) | (19643.12) | (12216.25) | |

*Note.* absolute value of standard deviation in parentheses
** Significant at 5%; *** Significant at 1%
Source: own calculation

As Table 2 shows, credit recipients are different from non-recipients in a number of aspects. Recipients were shown to have better access to extension services. Various forms of extension services include field conferences, direct visits between extension workers and households, as well as study tours have been designed to encourage exchanges of knowledge and experience. Farmers received extension information relating to the adaptation of new varieties, pest and disease control as well as fertilizer application. On average, family size and the proportion of ethnic minorities are shown to be larger in non-recipients. In Vietnam, despite the overall impressive achievements, ethnic minorities have experienced lower rates of poverty reduction than the general population. The minority community accounted for only 14.5% of the total population, but they make up 50% of the poor (World Bank, 2009). Compared to non-recipients, recipients live closer to the communal center and market, creating household opportunities for social communication and transaction cost reduction. Table 2 further reveals that there is no significant difference between households with access to credit and those without in terms of the remaining variables such as age and education of household heads, the share of nonfarm income in total household income, shocks in terms of both incidence and severity, savings and household asset.

3.1.2 Loan Characteristics

An average loan volume of 64.84 million VND equivalent to 93% of total income is significantly high. On average, the monthly interest rate charged by the agricultural bank is around 1.36%. The average duration of the loans from inception was greater than one and a half years at the date of the survey. Another loan characteristic is that collateral security is required for 88% of loans in the form of land titles. Monthly payment is the most common mode of repayment for 85% of loans. The proper utilization in the appropriate fields of loans can yield more benefits for farmers. Among credit recipients, 34% used loans for animal husbandry and 12% for crops. In addition, 40% of recipients used it to finance nonfarm investment, which is expected to obtain higher economic returns than farming activities. A remaining 14% share of recipients used loans for other purposes including home consumption, heath expenses, education expenses, housing improvement and so on.

*3.2 Regression Results*

3.2.1 Determinants of Household Participation in Credit Schemes

Before proceeding to examine the effects of credit, it is necessary to analyze determinants of credit access. Heinrich et al. (2010) suggested that "including irrelevant variables (that do not influence participation in the intervention) should be avoided so that they do not worsen the common support problem or unnecessarily increase the variance of the estimates". In this current study, irrelevant variables refer to the statistically insignificant variables in the probit regresion results. For this reason, Table 3 only reports the significant variables of the probit estimation of the PSM. The dependent variable equals one if the household takes out an Agribank loan and otherwise equals zero. The percentage of correct predictions is very high, around 94.7%, indicating the appropriateness of the model in analyzing the determinants of credit access by households.

Table 3. Probit estimation of accessing Agribank credit

| Explanatory variables | Coefficients | Standard errors | Z-value | Marginal effect dy/dx |
|---|---|---|---|---|
| Constant | -1.280984 | 0.1118263 | -11.46[***] | - |
| Log (Number of contacts with agricultural extension in the last 12 months and vice versa) | 0.3244127 | 0.0855604 | 3.79[***] | 0.0292657 |
| Ethnicity of household heads (1= ethnic minorities) | -0.5608311 | 0.1190376 | -4.71[***] | -0.0505934 |
| Log (Total value of savings) | -0.0330054 | 0.013654 | -2.42[**] | -0.0029775 |
| Number of observations | 1338 | | | |
| LR chi2(3) | 42.53 | | | |
| Prob > chi2 | 0.0000 | | | |
| Pseudo R2 | 0.0766 | | | |
| Correctly classified (%) | 94.69% | | | |

*Note:* [***]significant at 1%, [**]significant at 5%, [*] significant at 10%

Source: own calculation

Results show that access to commercial loans is strongly influenced by the extent to which recipients participate in agricultural extension programs. The coefficient of the number of visits by extension services is positive and significant at 1% statistical significance. A one percent increase in the number of extension visits raises the conditional probability of accessing preferential credit by 0.029%, given the other variables are held constant. This finding suggests once again the role of extension services in improving household access to information as well as credit. This result is in agreement with the findings of Hoang et al. (2006) who showed that the efficient delivery of extension services improves social networks and benefits from development.

Ethnic minorities are less likely to access Agribank credit. This is evident in the ethnicity variable, which has a negative sign and significant coefficient at a 1% level of statistical significance. Differences in endowments between ethnic minorities and the Kinh majority have also influenced credit access. Switching from ethnic minority to ethnic majority households results in a 5.05% increase in the probability of accessing Agribank credit. In general, it seems that the minority community still lags behind in terms of receiving commercial credit. These results are in line with those recorded by Dufhues and Buchenrieder (2005), which showed that ethnic minorities have a significantly higher chance of being access-constrained than the ethnic majority in the Ba Be and Yen Chau district of the Northern Mountains of Vietnam. Furthermore, the Kinh majority holds crucial positions in the local administration, consisting of various commercial bank branches. Commercial lenders restrict credit access to the poor and ethnic minorities due to the fact that those households have rising default rates.

Another factor influencing access to Agribank credit is amount of savings. This variable is negatively associated with access to commercial loans at 5% statistical significance. A one percent increase in amount of savings would yield a 0.0029% decrease in the conditional probability of accessing Agribank credit. One possible explanation for this result is that savings in kind are held by rural households which have low access to financial intermediaries (Newman et al., 2008). The liquidation of those savings serve as funding for household investment.

### 3.2.2 Determinants of Credit Volumes

Table 4 presents the determinants of the extent of household access to Agribank credit, as measured by loan size. As the Table shows, the selection bias problem is not present in this credit model because the inverse Mill's ratio (lamda) is not statistically significant at 5%. The model accounts for 26.76% of the total variability in Agribank loan volumes. Results indicate that physical assets have a substantial effect on volumes of commercial credit. A household owning more valuable assets can obtain a larger amount of commercial credit. An increase of one percent in asset value results in a 0.29% increase in loan size. In the formal commercial credit sector, assets are the principal indicator of the wealth level of a household. Assets yield more opportunities for investment and therefore increased loan volumes from commercial sources. It seems possible that the Agribank focuses on granting larger volumes of credit to those who are better off. For this reason, it is not surprising that a higher value of assets significantly affects the extent of credit access. This finding is in line with that in the previous analysis of credit outreach, revealing that Agribank credit favors clients in the better-off and richest groups.

Coefficients of other explanatory variables, such as share of nonfarm income, family size and ethnicity, have expected signs but are not statistically significant.

Table 4. Determinants of Agribank loan volumes

| Explanatory variables | Coefficients | Standard errors | Z-value |
|---|---|---|---|
| Constant | 7.464712 | 0.7996736 | 9.33[***] |
| Log (Total value of household asset) | 0.2929013 | 0.0583079 | 5.02[***] |
| Log (Share of nonfarm-nonwage income in total household income) | 0.1061928 | 0.096358 | 1.10 |
| Log (Family size) | -0.1904658 | 0.1750815 | -1.09 |
| Ethnicity of household heads (1= ethnic minorities) | -0.2954798 | 0.2169112 | -1.36 |
| Number of observations | 899 | | |
| Censored observations | 845 | | |
| Uncensored observations | 54 | | |
| Wald chi2(4) | 32.85 | | |
| Prob > chi2 | 0.0000 | | |
| Mills | | | |
| Lambda | 0.3655152 | 0.3482042 | 1.05 |
| Rho | 0.50792 | | |
| Sigma | 0.71962886 | | |
| F(5,    49) | 6.12 | | |
| Prob > F | 0.0001 | | |
| Adjusted R-squared (%) | 26.76 | | |

*Note.* Dependent variable is Log (credit amount)
[***]significant at 1%, [**]significant at 5%, [*] significant at 10%
Source: own calculation

*3.3 Income Impact of Credit*

3.3.1 Before Matching

Table 5. Income difference before matching, in thousands VND, 2012

| Income | All sample (n=899) | Recipients (n=54) | Non-recipients (n=845) | Two-sample Wilcoxon rank-sum (Mann-Whitney) test |
|---|---|---|---|---|
| Total income | 39316.96 | 46936.39 | 38830.03 | 3.027[***] |
| | (26062.16) | (23350.75) | (26163) | |
| Per capita income | 9663.639 | 14512.57 | 9353.767 | 4.127[***] |
| | (7846.22) | (10784.48) | (7523.169) | |
| Total farm income | 18448.02 | 11082.13 | 18918.74 | - 4.354[***] |
| | (14595.88) | (12969.44) | (14574.44) | |
| Total nonfarm income | 13946.85 | 24315.3 | 13284.25 | 4.570[***] |
| | (24324.34) | (23198.49) | (24257.29) | |
| Nonfarm - nonwage income | 3387.148 | 8457.519 | 3063.124 | 1.460 |
| | (16879.29) | (20507.63) | (16582.51) | |
| Wage income | 10559.7 | 15857.78 | 10221.12 | 2.752[***] |
| | (17919.54) | (18706.34) | (17826.11) | |

*Note.* absolute value of standard deviation in parentheses
$1000\ VND \approx \$0.045$
*** significant at 1%

As shown in Table 5, accessed households tend to perform better than non-accessed on income generating, except in terms of farm income. Credit recipients reported significantly greater income, per capita income, and non-farm income than non-recipients. However, no significant difference in farm income could be found between those two groups. It does not clearly explain the income difference, but it might be related to the variations in the quality and quantity of household resources allocated for economic activities. The results might also be attributed to the type of different credit access; therefore, matching is essential for inferring the causal welfare impact of credit.

3.3.2 After Matching

The impact of credit was calculated by averaging the differences in outcome between each treated group and the matched control group. Impact estimations were estimated using both normal matching and bootstrap matching with 5000 replications of sampling with replacements of the examination sample to adjust for bias caused by sampling errors. The treatment variable denotes participation in the credit schemes of the Agribank. As mentioned in the previous section, an outcome variable includes total income and its components. The mean of bias decreased from 49.5% to 8.5% and covariates become insignificant after matching. Using the propensity scores estimated in the probit model, credit recipients were matched with similar non-recipients to appraise the impact of credit on different components of income. Coefficients were approximated using different matching algorithms to validate that results were not driven by the choice of a certain matching approach. The matching algorithms used are nearest-neighbor, radius with a caliper of 0.001, Kernel using a normal density, and stratification. Furthermore, standard errors were also estimated using bootstrapping in brackets. The estimation results and the robustness check are also shown in Table 6.

As Table 6 shows, commercial loans have significantly positive effects on total income, per capita income, total nonfarm income and nonfarm nonwage income. Those coefficients are not dependent on different matching approaches, indicating the robustness of the results. Total household income illustrates this point clearly, as those households with access to commercial credit obtained from 5888.39 thousand VND to 14372.11 thousand VND (14.56% to 43.78%) more in total income than those without. Estimates of per capita income range from 12.09% to 51.83%. However, the analysis further indicated that there are no effects of commercial credit on total farm income. The coefficient of farm income is not statistically significant and changes its statistical significance according to the estimation methods.

Table 6. Income impact of commercial credit by the Agribank**,** in thousands VND, 2012

| Categories of income | | Matching algorithms | | | |
|---|---|---|---|---|---|
| | | Nearest neighbor | Radius (0.001) | Kernel | Stratification |
| Total income | ATT | 5888.39 | 14372.11 | 7395.29 | 6959.64 |
| | Percentage change (%) | 14.56 | 43.78 | 18.74 | 17.48 |
| | Standard error | 3439.97 | 3767.49 | 3322.46 | 3441.15 |
| | t-statistic | 1.89[*] | 3.70[***] | 2.25[**] | 2.07[**] |
| Per capita income | ATT | 1529.65 | 4975.06 | 4224.55 | 3338.20 |
| | Percentage change (%) | 12.09 | 51.83 | 40.82 | 29.87 |
| | Standard error | 1636.91 | 1741.04 | 1514.97 | 1596.75 |
| | t-statistic | 1.14 | 2.67[***] | 2.75[***] | 2.09[**] |
| Farm income | ATT | -3229.47 | -3730.58 | -5731.09 | -4155.67 |
| | Percentage change (%) | -22.94 | -26.46 | -34.48 | -27.53 |
| | Standard error | 2045.81 | 2004.69 | 1866.00 | 1928.43 |
| | t-statistic | -1.46 | -1.87[*] | -2.97[***] | -2.08[**] |
| Nonfarm income | ATT | 7635.20 | 13120.34 | 9066.76 | 7378.80 |
| | Percentage change (%) | 46.18 | 111.60 | 59.46 | 43.64 |
| | Standard error | 3752.84 | 3950.75 | 3430.10 | 3635.27 |
| | t-statistic | 2.07[**] | 3.30[***] | 2.64[***] | 2.04[**] |
| Nonfarm | ATT | 5279.73 | 5468.40 | 5052.11 | 5014.26 |

| Nonwage | Percentage change (%) | 160.43 | 180.92 | 147.79 | 145.34 |
| | Standard error | 3074.99 | 3138.53 | 2846.73 | 2798.24 |
| | t-statistics | 1.68[*] | 1.78[*] | 1.77[*] | 1.79[*] |
| | ATT | 2254.77 | 7547.87 | 4019.79 | 2446.59 |
| Wage income | Percentage change (%) | 17.03 | 86.42 | 33.98 | 18.18 |
| | Standard error | 3243.21 | 2964.13 | 2647.41 | 2827.84 |
| | t-statistics | 0.81 | 2.50[**] | 1.52 | 0.85 |
| Number of treatment (households) | | 54 | 53 | 54 | 54 |
| Number of control (households) | | 371 | 496 | 797 | 797 |

Note. $1000\,VND \approx \$0.045$

* Significant at 10%; ** significant at 5%; *** significant at 1%

ATT: Average Treatment on Treated Effect is bias corrected by bootstrapping method

Source: own calculation

Consistent with expectations, the results of this section show a substantial increase in the total nonfarm income of Agribank credit recipients. This positive impact of credit on nonfarm income is explained by the fact that nonfarm activities are essential for rural livelihood, as farming activities are risky. These results are in line with those of Stampini and Davis (2009), who found that nonfarm income is a complementary source of investment in seeds, services, hired labor, and livestock inputs. Nonfarm income relaxes credit constraints to farming. In another study conducted by Haggblade et al. (2010), it was shown that the non-farm economy is a potential pathway to reducing poverty for the rural poor. An association exists between the poor's access to financial capital and their participation in nonfarm activities. Facilitating the nonfarm economy can help the poor to improve their access to credit and other resources. Imai et al. (2015) also concluded that access to rural non-farm employment significantly reduces poverty and vulnerability for households in both Vietnam and India. Diversification of household activities in the non-farm sector would reduce risks.

The strong evidence of the significant contribution of commercial credit to household income, especially non-farm income can be linked to a number of factors. The Agribank performs as a profit-oriented commercial bank, sustaining the development of rural areas. The bank focuses its lending on relatively richer households. Recipients of commercial loans appear to use credit for financing nonfarm activities, which could be more profitable and prone to fewer risks from bad weather conditions. During the last two decades, the bank has clearly expanded its share of total rural credit and this process is in line with the rapid development of the national economy.

The Agribank model in Vietnam is quite similar to the cases of the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand, the Bank Rakyat Indonesia (BRI) in Indonesia, and the Land Bank in the Philippines, which have demonstrated their success in providing financial services to a majority of rural inhabitants. Overall, these cases support the view that the expansion of credit should be in conjunction with the development of small enterprises and farms to decline transaction costs.

On the basis of market principles, understanding and serving the actual demand of borrowers have shown effectiveness in supplying credit services over time. Turning now to the experience of the Agribank, it has made loan disbursement plans suited to the cash flow of borrowers. Furthermore, greater credit volumes of the bank may be associated with the larger investment and yields. An empirical work was undertaken by Saldias and von Cramon-Taubadel (2012) suggesting that increased loan volume has boosted efficiency of crop farms in Chile. Collateral security requirement could have played a vital role in bringing about incentives for borrowers to invest in high-yielding activities. Giné (2011) suggested that enforcement of private contracts and the registration of property seem to be much more effective in improving credit access for the formal sector in Thailand. Also, credit recipients appear to use credit for financing nonfarm activities, which could be more profitable and prone to fewer risks. This reason is consistent with findings by Simtowe et al. (2006), which indicated that credit is useful only for households with access to remunerative businesses and investment opportunities. Another factor for these effects is that the bank targets the less-poor clients as compared to the general population. Based on the national poverty line, the share of credit recipients who are poor represents 18% compared to 25% of non-recipients. The Agribank tend to provide credit to wealthier households, which have collateral and demand

larger loans to reduce the transaction costs per unit of loan. In addition, location and distance from the market center is another factor allowing credit recipients to reduce transaction costs. In this study, the average travel distance to the market center is 2.47 compared to 3.85 kilometers in the case of non-recipients. Khoi et al. (2013) found that convenient access to village roads improves household access to formal loans in the Mekong River Delta of Vietnam. Better road connection can reduce transaction costs of accessing credit and markets. Khandker et al. (1995) noted that infrastructure and market connection determine the yields, farming productivity, and credit repayment by clients of Grameen Bank in Bangladesh. Similarly, Paxton (1996) asserted that better access to markets improves household credit repayment.

## 4. Conclusions

The provision of credit to rural households is not meaningful if it does not improve their welfare. Effects of credit on poverty reduction, therefore, have become a central issue in the rural credit system. The continuous supply of credit depends on the profitability of recipients using loans. However, published data on the effects of the credit of the Agribank, the leading rural credit provider in Vietnam, is currently scarce. A primary concern of this study is to assess the income impact of Agribank credit on households in disadvantaged rural areas of Vietnam.

The study has found that provision of credit to rural households increased their total income, per capita income, and total nonfarm income. An implication of this study is the possibility that the Agribank credit has partly contributed to the poverty reduction of Vietnam in the last two decades.

The findings of this study have a number of important implications for future practice. This information can be used to develop targeted interventions aimed at fulfilling household demand for credit in the country. There is, therefore, a definite need for the expansion of this credit source. However, poor households are still excluded from accessing the Agribank credit. Therefore, continued efforts are needed to make those loans more accessible to the poorer households. This study also emphasizes that the development of small enterprises and farms is in partnership with the development of rural credit. Considering the needs of farmers, the bank has succeeded in providing rural households with financial services over time.

The success in mobilizing savings in cash plays an important role in providing households with a greater loan volume. The historical development of rural credit has showed that the provision of savings services is vital to rural areas and farmers. In return, savings are the main source of financing lending activities. In most cases, a larger loan volume would be sufficient for households to expand production and efficiency.

Access to additional resources can have a profound and positive impact on credit recipients. More access to extension services and risk coping measures should therefore be made available to households to increase farming productivity. Credit is an important financial resource for farming inputs such as seed, fertilizer and animal feed. More importantly, extension enhances farming practices, which help farmers use credit more effectively. Another way of improving risk coping strategies could be through extension services. For example, extension to enhance veterinary hygiene and protection against epidemics might reduce risks and economic losses and enhance the impact of credit.

Another important practical implication is that the Agribank credit schemes tend to be more adaptable to the farming seasonality and the cash flow of households. The provision of timely credit is crucial for households to purchase agricultural inputs and invest in production equipment. The lending procedure of the agricultural bank, which is primarily based on the principles of the rural credit market, seems to satisfy household demand. These findings also support the view that the expansion of credit should be in conjunction with the development of small enterprises and farms to reduce transaction costs.

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# Can Greater Openness and Deeper Financial Development Drag ASEAN-5 into Another Series of Economic Crises?

Samsudin Hazman[1]

[1] Faculty of Management and Economics, University Malaysia Terengganu, Malaysia

Correspondence: Samsudin Hazman, Faculty of Management and Economics, University Malaysia Terengganu, Malaysia. Tel: 60-96-68-3868. E-mail: hazman.s@umt.edu.my

**Abstract**

In the event of economic crises, it is observed that economic volatility becomes more severe. Therefore, the aim of this study is to examine the impact of greater openness and deeper financial sector development in influencing the level of economic volatility which could trigger economic crises in both long-and short-run periods in the case of ASEAN-5 countries, namely Indonesia, Malaysia, Philippines, Singapore and Thailand. Given that more attention is needed to address the issue, the Pooled Mean Group (PMG) estimations developed by Pesaran et al. (1999) and data ranging from 1980 to 2014 were employed to address the issue. With the ability to estimate short-run coefficients at each country level and its speed of adjustment, this study further fills the knowledge gap. Based on the analysis, it is found that greater trade and financial openness may further relax economic volatility in the long-run, suggesting greater international risk sharing which soothes consumption shocks. In terms of the effect of financial development towards economic volatility, it is found that only deeper banking sector development may reduce economic volatility in the long-run, but the same may not apply in the case of greater stock market development. Particularly, it is suggested that it is in the nature of developments in the banking sector to likely provide longer financing options and greater banker capabilities in detecting riskier investments, thus giving a favourable impact on economic volatility. It is a contrast with the stock market sector where it is more likely to be more susceptible towards large and sudden capital outflows. Its tendency to provide capital towards riskier investments may worsen volatility in the longer term. Nevertheless, in the short-run, the effects of greater openness and financial development is not as obvious as in the long-run; financial openness and greater stock market sector development may significantly relax economic volatility. As suggested by the speed of adjustment, the equilibrium from short-run to long-run is corrected by 1.71% and 2.33% in a year. Cumulatively, it can be said that there is no evidence that greater openness and deeper financial development may drag ASEAN-5 into another series of crises except in the case of stock market sector development. Therefore, the source of instability in the region is likely to be driven from greater stock market sector development rather than greater openness and banking sector development.

**Keywords:** business cycle, financial development, financial openness, trade openness

## 1. Introduction

The rapid economic expansion and several economic crises of Asian countries, especially in the ASEAN-5, in recent decades have made the South East Asian region in the centre of debate over the last three decades (Note 1) (Note 2). Even though the region has experienced a remarkable structural change and considerable enhancement in the standard of living especially from the 1970s until the mid-1990s (Asian Development Bank, 1997) which once applauded by the World Bank and the IMF as part of the "Asian economic miracle" (World Bank, 1993, p. 1), these economies has also suffered from series of economic crises. Particularly, these economies have endured the 1973 oil price crisis, early 1980's global economic slowdown, the 1985 Singapore financial collapse due to falling demand in Singapore's goods and services as a result of the slump of the worldwide petroleum and marine related sectors which consequently affected the whole region, the most notably 1997 economic crises, the early 2000 global economic slowdown as a result of 1997 crisis, affected from the U.S sub-prime crisis which emerged in 2008 and the recent ongoing effect of economic contagion which spread fast from the EU as well as the effect of China economic slumped. This shows that the ASEAN-5 has experienced more crises than booming. In light of these economic occurrences, however the source of the crises remained debatable.

Nonetheless, as past experience shown, the series of crises has become more persistent in recent decades, especially after economic opening and financial reform (Hnatkovska & Loayza, 2003). It was notably that ASEAN-5 has taken massive steps of liberalisation since 1970 especially after the establishment of ASEAN in order to realize economic transformation from agriculture towards industrialization based economy which consequently turns these economies into among the leading exporters of world industrial goods (Note 3). Financial liberalisation policies were also introduced in order to support the economic transition where the injection of investment and financial assistance to fund the transition was barely needed.

The transition also has urged the need for financial sector reform to support the burgeoning industrialisation. The capability of financial sector need to match the escalating demand from the real sectors hence the development of financial sector through several financial reform is also prioritised. However, to the extent those financial reform and greater openness has created a sustainable economic development in ASEAN-5 are questionable. As highlighted previously, economic crises has become more severe in recent decades, especially after economic opening and financial reform (Hnatkovska & Loayza, 2003). And interestingly, in the event of economic crises, economic volatility has become more severe. Figure 1, further supports the arguments where economic volatility has become more persistent in ASEAN-5 countries recently.
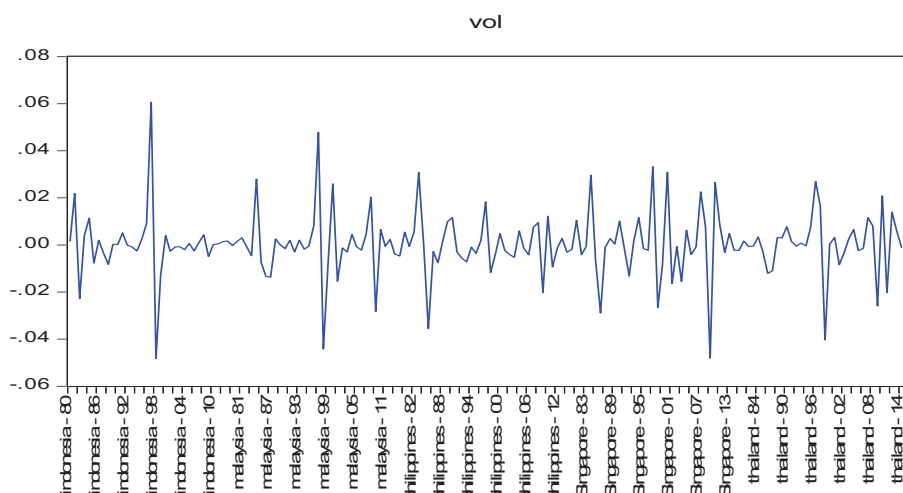


Figure 1. The cyclical component of GDP of ASEAN-5 which is derived through BP (Band-Pass) filtering method

This sparks the concern whether greater openness (Note 4) to the world market and deeper financial development (Note 5) leads to more volatile state of economy. Or it has become the engine for sustainable economic growth especially in case of ASEAN-5. It is often argued and observed that even if openness and financial development may bolster economic development, openness is more often deemed to be the source of instability due to vulnerability to external shocks as has been witnessed nowadays. This is also not limited to the role of financial sector development in preserving economic stability which has become increasingly dubious especially after the US sub-prime and EU economic crises. It is argued that a well-developed financial system may not always lead to lower economic volatility as an increase in financial development is usually followed with the creation of new financial instruments which are usually risk indivisible. The inability to diversify risk may intensify the risk of triggering volatility which may lead to economic crises. If a country with a well-developed financial system such as the US and EU may also suffer from the reverse effect of financial development, then emerging economies and countries with intermediate levels of financial development may even be at risk (Aghion, 2004).

Interestingly, despite the conundrum, it has had little attention in the literature and there are still questions to be answered. Most of past studies concentrated on the effect of financial development and openness in promoting sustainable economic development, while very little attention is given in understanding its implications in triggering economic crises. Past literature also offers very limited information that looks at which indicator of financial development and openness would have a more stabilizing or destabilizing effect. Specifically, none of the studies has compared the effect of banking sector and financial market sector development/ trade and financial openness towards economic volatility; especially with regards to ASEAN-5 countries.

With the current state of literature and economic dilemma, this study was motivated to further investigate the

issues. The arrangement of this paper will follow with the discussions on the selected past literature, then proceeded to the model development and econometrics specifications, data descriptions and sources, the interpretation of econometrics analysis and lastly, concluded with some policy recommendation.

## 2. Selected Literature

As highlighted in the previous section, the available literature pertaining to the effect of financial development and openness in affecting economic volatility is very limited (Note 6). Among the first to discuss the effect of trade openness on economic volatility is such as Razin and Rose (1992) who argued that an increase in trade with increased specialization of intra industry as a result of greater trade openness would lead towards a decline in output volatility due to the greater volume of intermediate input trade for a group of 138 countries during 1950 to 1988. This shows that, trade openness may further improve resource allocation, lower consumers' prices and lead to more efficient production, thus reducing volatility. It may also further encourage technological transfer, which may result in productivity improvements and promise a more sustainable economic development which could mean a reduced impact on volatility. It is therefore not surprising that international organizations and almost every country advocate policy reforms centred on trade liberalisation. Samsudin (2013) also point out that an increase in trade openness may reduce the chances of inflationary shocks which could trigger volatility. This is because trade openness may reduce excess demand for goods and services and therefore avoid undesired price shocks. Such a situation may also have a smoothing effect on private consumption which may relax economic volatility. The author also assert that an increase in competition due to greater trade openness may also increase industry efficiency in production, and higher levels of efficiency could lead to better resource allocation and economies of scale. This could prevent, or at least minimize, any risks related to undesired shocks. The finding was based on dynamic time series analysis for five ASEAN countries.

On the other hand, greater financial openness also could lead to better risk sharing and a well-diversified investment portfolio. These attributes could be vital in reducing the impact of economic shocks. In other words, extracting the capital control will permit both domestic and foreign investors to have a more diversified portfolio and improve risk sharing which may lower economic volatility. This is in line with Chinn and Ito (2006) who study a group of 108 countries, including 21 industrialized countries and 31 emerging market countries, and Bekaert et al. (2006) with a group of 95 countries in which 50 countries that were mainly industrialized and some emerging economies with an active stock market, and 30 countries with emerging equity markets in a cross-country analysis. Beck et al. (2004) also added that for industrial sectors that strongly depend on external financing may constitute a comparative advantage for them which may ease volatility arise from consumption shocks for 36 industries and 56 countries from 1980 to 1989 provided by cross-country analysis. Besides, McKinnon (1973) and Shaw (1973) also argue that the basic idea underlying openness is that capital openness may push the real interest rate to its competitive market equilibrium as financial liberalisation may make financial repression in protected financial markets smooth which, in turn, could invite more investment and shorten the cycle of volatility.

Kose et al. (2006) who examined a panel data for a sample of 85 countries of which 21 were industrial countries and the other 64 were a group of developing countries also argued that deeper financial development could further reduce volatility by providing access to capital which may assist in diversifying the production base and hence reduce the effect of industrial specific shocks. Besides that, Silva (2002) also pointed out that the financial sector could reduce risk and volatility through its role in facilitating diversification and reducing asymmetric information through the increased capability of financial institutions to identify projects with high probability of failure in a study based on a mixed sample of 40 developed and developing economies with data availability from 1960 until 1997, and by utilizing the generalized method of moments (GMM) framework based on a cross-sectional dataset. This effect is also known as the double welfare improvement effect, which is useful for easing economic problems, especially in developing countries. Kim et al. (2009) also add that better financial institutions and markets might also provide information concerning profitable ventures, diversify risks and facilitate resource mobilization (Note 7). To a certain extent, these effects of financial development may reduce economic volatility due to increased confidence and certainties on return and, thus, increase the level of investment and promote economic growth (Pindyck, 1991). Therefore, a well-developed financial system assists in improving the capital structure and efficiency of resource allocation, thereby promoting long-run economic growth (Kim et al., 2009) and reducing economic volatility (Ahmed & Suardi, 2009).

Despite the findings of a smoothing effect flowing from financial development and openness towards economic volatility which may instil a prominent sustainable economic growth, there are also other studies who suggest the opposite direction. For instance, Razin et. al. (2003) explained that trade openness is likely to offer abundance of imported goods and services in an economy and this may risk losing domestic producers if they fail to keep up

with the standards and expectations. If that situation occurs, unemployment will rise and disrupt the level of private consumption. This may lead to a widened trade deficit which eventually may trigger volatility. The finding is based on a group of developed and developing economies. Additionally, Kalemli Ozcan et al. (2003) analysed a cross regression for 15 most specialized regions also argued that trade openness may encourage specialization of production based on comparative advantage assumptions and make an economy more vulnerable to industry specific shocks if they fail to diversify. This shows that greater openness to world goods markets may bolster domestic economic fluctuations because of reliance on the international environment, such as exchange rates and international price levels (Arora & Vamvakidis, 2004; Blankenau et al., 2001; Rodrik, 1998) and, hence, lead to sensitivity to external shocks.

Aside of that, greater financial openness may also potentially harm economic volatility. This is because liberalisation could increase the chances of higher external shocks due to removal of capital controls, and greater economic integration could lead to economic contagion (Schmukler, 2004a, 2004b). Some researchers even argue that an open economy will make any country more crisis prone, as they are more vulnerable to volatility and instability as capital flows are cyclical in nature, and this might explains the increasing recurrence of financial crises which weaken economic swing especially for developing economies (Stiglitz, 2000). Interestingly the assertion was made based on developing South East Asia economies. In addition, according to Ang and Mckibbin (2007), liberalisation may increase economic volatility in the financial system and, hence, trigger a financial crisis if carried out improperly. Aghion et al. (2004) highlight that liberalisation might destabilize the economy as it will speed up the chronic phase of growth with inflows of capital which, subsequently, is followed by economic failure and capital flight especially for economies that are at the intermediate level of financial development and going through the phases of development. This also shows that, financial market liberalisation may open new channels for the entry of foreign capital which consequently leads to appreciating real exchange rates and a rapid expansion of bank lending and, thus, increasing the chances of economic overheating and vulnerability to a turnaround in capital flows. This argument is supported by Buch et al. (2005) who contend that the link between financial openness and volatility has not been stable over time for 24 OECD countries from 1960 until 2000.

Financial development also may not necessarily lead to lowering economic volatility. It is pointed out that financial development will normally be followed by the creation of a more sophisticated financial system and instruments, such as forward trading, which could then open up more room for speculative activities and thus trigger volatility. As history has shown, the early 1990s financial crisis in Europe and the mid-1990s Asian financial crisis were driven by uncontrolled speculation activities. The source of instability also could derive from too many options on financial instruments, which could increase the asymmetric information problem and lead to adverse selection and moral hazard. Even a supposed increase in financial development should decrease the asymmetric problem, but still the possibilities of failure to detect profitable investment could occur when abundance of sophisticated financial instruments and systems are introduced. With investors having problems in detecting profitable investment and incurring losses in investment, the problematic situation could then persuade them to pull out their investment which could then trigger economic volatility. In this sense an increase in financial development could lead to a more volatile economy due to adverse selection and moral hazards. In this case, adverse selection and moral hazards are caused by an increase in the asymmetric problem arise from the abundance of financial instruments and sophisticated financial systems which sometimes are risk indivisible. As stressed by Acemoglu and Zilibotti (1997), the interaction of investment indivisibility and the consequences of inability to diversify risk further intensifies economic volatility. On the other hand, monetary shocks could also increase the chance of economic volatility, particularly when monetary policies often change. This argument is supported by Beck et al. (2004), while others, such as Kiyotaki and Moore (1997), point out that the imperfections of the capital market could magnify the effects of momentary productivity shocks and make them more persistent.

After a brief review of the literature it was found that the findings about the effect of financial development and openness for economic volatility are still vague and mixed; thus motivating this study to further extends the work already done. It is also observed that the focus area for the present study (ASEAN-5 countries) has received less attention even though the region has undergone several financial reforms, and has experienced a serious liberalisation process with meaningful economic arrangements among its counterparts. ASEAN's contribution to world economic growth is apparent, while its popularity as a destination for world investments is ever increasing. Therefore, this study fills a gap by focusing on the effect of openness and financial development towards economic volatility based on ASEAN-5 countries, which has been neglected in past studies. Additionally, most of past studies examined the impact of financial development and openness for economic volatility in a static

model while very few analyse the dynamism on the said issue. In other words, in dynamic model the short-run implications can be further detected. Nevertheless, it is noted that the past studies matter to its own arguments and objectives, and therefore the present study tempt to fill the remaining loopholes.

## 3. Model Specification and the Method of Estimations

As explained earlier, financial development and openness are somehow interrelated in explaining economic volatility which reflect the event of economic crises. Therefore, the economical function of the determinants of economic volatility can be written as *(1)*.

$$Vol = \{FD, OP\} \tag{1}$$

In function *(1)* the term *Vol* refers to economic volatility which represents economic crises, *FD* refers to financial development which can be divided into two segments; banking and stock market sector development. Meanwhile, *OP* is openness which can be further broken down into financial and trade openness. Therefore, functions *(1)* can be further written as equation *(2)*.

$$Vol_{it} = \alpha + \beta_1 Bank_{it} + \beta_2 Mrkt_{it} + \beta_3 FO_{it} + \beta_4 TO_{it} + \varepsilon_{it} \tag{2}$$

Where $\alpha$ and $\beta$ are the parameters to be estimated while $\varepsilon$ is the error term referring to $i^{th}$ country at time *t*. In equation *(2)*, *FD* is divided into banking and stock market sector development denoted by *Bank* and *Mrkt* respectively. Meanwhile, *OP* is divided into financial and trade openness which is represented by *FO* and *TO* as elucidated. In equation *(2)*, the entire variables in the model are transformed into a logarithm form. By doing so it may avoid, or at least reduce other problems such as heteroscedasticity and widely varying data which lead to data precision error measurements (Note 8). Other than its main purposes in reducing the biasness of the data and reducing other errors and problems, one of the biggest advantages of turning the data into logarithms is linearisation of the model, where it may reduce the chances of regression equation specification error (Note 9). Also, by taking a logarithm form the estimated coefficients of $\alpha$ and $\beta$ in equation *(2)* will be interpreted as elasticities.

With having the model specifications of equation *(2)* set up and taken the logarithm form, the long-run co-integration model is now ready to be tested. As mentioned earlier, aside of detecting the long-run relationship between financial development and openness for economic volatility, this study also attempts to extract the possibility of the non-causal relationship among these variables in the short-run.

This can be done by introducing the Autoregressive Distributed Lag (ARDL) model at each country level. For this purpose, the entire sample countries are then pooled in a panel and further test for cross-equation restriction to detect for common long-run relationship through the Pooled Mean Group (PMG) estimator developed by Pesaran et al. (1999). Under this technique, the respective long-run and short-run associations are estimated by pooling both time-series and cross sectional effects in a panel rather than isolating the trend effects through averaging the data for each country. The advantages of this averaging may lead to the loss of useful information in estimating a more flexible model which permits for heterogeneity parameter across countries. Averaging also may not reveal the dynamism of the relationship between financial development and openness on economic volatility, especially in the presence of reverse effects at various time frequencies (Note 10).

Furthermore, the PMG estimator will also be consistent even if there is a mixed level of stationarity of *I(1)* or *I(0)* among the variables. Therefore, unit root testing prior to co-integration testing is not required (Note 11). Another advantage of this method is that the estimations may also allow for dynamism in the analysis which will be an added advantage, especially in understanding the lagging effect of the variables. This is an important aspect of economy where some of the policies or shocks may not instantly affect the economy but take some time before they take effect. As suggested by Arestis et al. (2002), financial policies especially concerning the financial openness, may usually demonstrate further instantaneous long and short-run implications. Therefore, the method may allow for short-run causality estimation where it has received less attention in the literature. In addition, the suggested method may also allow for homogeneity restrictions only in the long-run parameters across country, while in the short-run the error variances are permitted to vary across countries. Besides that, unlike in the other panel estimation, the PMG may also estimate the speed of adjustments where it indicates the rate of adjustment to restore equilibrium due to economic shocks.

With those underlines advantages, this study utilised the PMG estimator developed by Pesaran et al. (1999) in order to understand the effect of financial development and openness on economic volatility in the case of ASEAN-5 countries. Way to precede, equation *(1)* is nested in an ARDL specification where it may permit for rich dynamics in the manner that economic volatility reacts to the change in financial development and openness. Therefore, the ARDL model with lags order of *p* and *q* where the endogenous and exogenous variables enter the

right-hand side of the model, can be written as per equation *(3)*.

$$y_{it} = \mu_i + \sum_{j=1}^{p} \lambda_{ij} y_{it-j} + \sum_{j=0}^{q} \delta'_{ij} x_{it-j} + \varepsilon_{it} \qquad (3)$$

In equation *(3)*, *it* refers to country *i* at time *t* (measured annually), *j* is the lag value, *y* is the interested endogenous variable of economic volatility which represents economic crises, *x* is the exogenous variables of financial development and openness, *μ* is the fixed effects, *λ* and *δ* is the estimated parameter, and *ε* is the error term. Re-parameterisation of equation *(3)* is written as in equation *(4)*.

$$\Delta y_{it} = \mu_i + \phi_i y_{it-1} + \beta'_i x_{it} + \sum_{j=1}^{p-1} \lambda^*_{ij} \Delta y_{it-j} + \sum_{j=0}^{q-1} \delta^{*'}_{ij} \Delta x_{it-j} + \varepsilon_{it} \qquad (4)$$

Where,

$$\phi_i = -(1 - \sum_{j=1}^{p} \lambda_{ij}), \ \beta_i = \sum_{j=0}^{q} \delta_{ij} \ ,$$
$$\lambda^*_{ij} = -\sum_{m=j+1}^{p} \lambda_{im}, \ j = 1,2,\dots,p-1 \text{ and}$$
$$\delta^*_{ij} = -\sum_{m=j+1}^{q} \delta_{im}, \ j = 1,2,\dots,q-1 \ .$$

Then, the variables are further grouped in a level which allows equation *(4)* to be rewritten as an error correction model as in equation *(5)*.

$$\Delta y_{it} = \mu_i + \phi_i(y_{it-1} - \theta'_i x_{it}) + \sum_{j=1}^{p-1} \lambda^*_{ij} \Delta y_{it-j} + \sum_{j=0}^{q-1} \delta^{*'}_{ij} \Delta x_{it-j} + \varepsilon_{it} \qquad (5)$$

Where, $\theta_i = -(\beta_i/\phi_i)$ indicates the long-run relationship between $y_{it}$ and $x_{it}$, while $\lambda^*_{ij}$ and $\delta^{*'}_{ij}$ are the short-run causality coefficients of economic volatility based on its past values and other determinants ($x_{it}$) respectively. $\phi_i$ represent the coefficients of Error Correction Term (ECT) which determines the rate of adjustment for $y_{it}$ to restore to its long-run equilibrium when there is a shock in $x_{it}$. For there is a long-run relationship between $y_{it}$ and $x_{it}$, the value of $\phi_i$ should be less than zero ($\phi_i < 0$). In other words, the existence of long-run relationship or cointegration between financial development and openness on economic volatility is indicated by the negative and significant value of $\phi_i$. Otherwise, there is no long-run cointegration between $y_{it}$ and $x_{it}$.

With the equation and regression model specified, the effect of financial development and openness on economic volatility which represents economic crises can be further analysed. The next section discusses the source of data used in this study and descriptions on each variable.

### 4. Data Descriptions and Sources

In conducting the analysis, an annual panel dataset of ASEAN-5 countries for the period covering from 1980 up to 2014 were employed. All of the data were obtained through the World Development Indicator (WDI) online database published by the World Bank. Except for the financial openness indicator, the data was compiled by Lane and Milesi Ferretti (2006) (Note 12), and both banking and stock market development indicators were obtained from Financial Structure Database which was first compiled by Beck et al. (2000).

After determining the source of data, the next crucial step would be to determine which data to be selected as the best proxy for each variable based on its definition. As stated earlier, economic volatility has become more severe in the event of economic crises, and therefore a cyclical component of GDP is used as a proxy for economic volatility. By definition, volatility refers to the deviation of the particular time series data from its mean. Based on the definition, taking the cyclical component of GDP may well suit the need of the study. To date, there is no specific data to reflect on volatility directly, however has to be derived explicitly. In order to derive the data, Band-Pass (BP) filtering method is utilised rather than linear detrending, first differencing and Hodrik-Prescott (HP) filtering method. Particularly, the linear detrending tends to create spurious cycles when the series of data are not "trend stationary". On the other hand, the first differencing also may suffer from variables timing relationship bias and tends to overweight the short-run fluctuations. The HP filter is deemed to be better from the former and has been widely utilised in the studies dated back to 1980s and early 1990s. Nevertheless, the HP filter still possesses some weaknesses where it tends to overweight high-frequency fluctuations and the data cyclical component demonstrates unusual behaviour approaching towards the end of the sample. Furthermore, when dealing with annual data series, the HP filters has a very weak performance, hence it is not preferable in this study (Note 13). Unlike the BP filter, the method is specially designed to cope with annual data series, and remove out pre-specified range frequencies in the data components (Baxter & King, 1999). According to the author, the BP filter addresses important aspects of optimal filter (Note 14). Therefore, BP filtering method is utilised in deriving the cyclical components of GDP to reflect economic volatility which represents economic crises.

As for financial development indicator, two proxies were utilised in this study, namely the banking sector

development and stock market sector development (Note 15). It is argued that the bank-based measurements are often related to the long-term financial development. This is because banks are able to offer long-term financial assistance compared to market-based, which is often associated with short-term capital especially for firms being primarily concerned with immediate performance (Ang & McKibbin, 2007). Given that there are very limited studies that look at which indicator of financial development would have a more destabilizing effect, these two variables should be distinguished as it is expected that these two variables may implicate different effects on economic volatility (Note 16).

For the purpose of this study, domestic credit to private sector normalized by GDP was used to proxy for the banking sector development. There are several factors why this variable is employed, such as having a better grounded theory, data availability and it is technically sound (Note 17). Another indicator such as M2 is deemed to be a bit 'noisy' because it may contain foreign capital, admit double counting, and overestimate financial development. Besides, other variables, such as domestic total bank assets may not be available for some countries and hence may not be suitable.

For the stock market sector development, stock market capitalisation for GDP was employed as a proxy. It is deemed that stock market capitalisation may best explain stock market development, as it may depict the size of the financial market rather than its activeness and well suit the need of the study. In other words, stock market capitalisation may represent stock market development in terms of its leverage compared to the other measurements and provide a better reflection of stock market development. Compared to the other measurements such as stock market turnover ratio and total value stock traded, both proxies may best depict stock market activeness and may not reflect the ability of capital accumulation which may be inadequate to explain stock market development (Note 18).

For instance, openness is further divided into two segments; financial openness and trade openness. By definition, openness is defined by the degree of compromise on transparency, unrestricted access and collaborative management. Therefore, as pointed out by Schmukler (2004a), "Financial openness can be defined as the integration of a country's local financial system with international financial markets and institutions". As for trade openness, it is best defined as an outflow and inflow in terms of goods and services for a given country.

Based on the definition, financial openness is proxied by the volume of a country's foreign assets and liabilities as a percentage of GDP, or also known as a *de facto* financial openness indicator. Because the nature of the data that tends to depict the outcome of any policies relating to financial openness, this variable may reflect the true level of financial openness (Note 19). Moreover, the data may reflect a given country's history of financial openness and account for policy enforcement, which the *de jure* measurements of financial openness fail to demonstrate (Note 20). The *de jure* measurement of financial openness is the alternative measurement for financial openness and depicts financial openness from a policy point of view without accounting for the outcome. Due to the need of this study to understand the effect of the outcome of financial openness on financial development and economic volatility, the *de facto* financial openness was found well suited to the study. Given some doubt about the data reliability of the *de jure* financial openness, the *de facto* measurement of financial openness seems superior (Note 21) (Note 22). Furthermore, it is also argued that the *de facto* measurements might be more relevant for a pure test of financial openness hypothesis, where the *de facto* seems to reflect the true level of openness or outcome based measurements. Whereas, *de jure* measurements of openness may be closely related to the policy based financial openness measurements. Based on this argument, it seems that *de facto* was most suitable for this study as this study investigated the impact of financial openness in terms of capital flows rather than the impact of financial openness policy.

On the other hand, trade openness is measured by the ratio of total trade to GDP and this was used as the proxy for trade openness. By taking this approach in deriving the trade openness data, it is believed that it may reflect the history and outcome of trade openness experienced by a given country and be parallel with the nature of *de facto* financial openness data. The measurement of trade openness is apparently less complicated and straightforward compared to the other variables measurements. These methods of measurements have been used extensively in the literature.

Having all of the data sources and description of each variable specified, the regression analysis on the issue is further conducted and presented in next section.

## 5. The Findings

As specified earlier, equation *(2)* is analysed by utilising the PMG approach proposed by Pesaran et al. (1999). Since the method is equipped with the ability to deal with mixed stationarity variables, the test for stationarity is no longer essential. Therefore, the long-run cointegration analysis can be done straightforward. However, it is

beneficial to undertake some descriptive statistics and correlations analysis on the involved variables in order to understand the underlying properties of each data. Moreover, it is important to undertake these preliminary tests as it is believed that the correlation analysis can extract from all the possibility of scaling problems, especially for the short time series data (Neyapti, 2001). The results of the descriptive statistics and rank correlation test are presented in Table 1 which provides the summary of the analyses.

Table 1. Descriptive statistics and rank correlation matrix

|  | Volatility | Bank | Stock Market | Financial Openness | Trade Openness |
|---|---|---|---|---|---|
| I – Summary statistics | | | | | |
| Mean | 0.0002 | 4.0783 | 3.6299 | 0.4109 | 30.1197 |
| Maximum | 0.0607 | 5.1103 | 6.4306 | 2.5189 | 31.9227 |
| Minimum | -0.0483 | 2.1961 | -2.7562 | -1.1199 | 28.4475 |
| Std. Dev. | 0.0140 | 0.6834 | 1.7909 | 0.8058 | 0.8739 |
| Observations | 175 | 175 | 175 | 175 | 175 |
| II – Rank correlation Matrix | | | | | |
| Volatility | 1 | 0.0284 | 0.05933 | -0.0587 | 0.0366 |
| Bank |  | 1 | 0.6817 | 0.5355 | 0.5897 |
| Stock Market |  |  | 1 | 0.6782 | 0.6382 |
| Financial Openness |  |  |  | 1 | 0.7454 |
| Trade Openness |  |  |  |  | 1 |

As indicated in Table 1 Section I, there was no scaling problem and no further modifications to the data were required. The standard deviations of the data are also relatively small in all cases which indicate that the data is spread over a smaller range. In Section II, the cross-correlation among the regressors is also relatively small, which indicates that there is unlikely for multicollinearity. Particularly, none of the regressors exceed 90% correlation score. On the other hand, the rank correlation matrix also indicates that all of the variables are positively correlated with economic volatility, except for financial openness. Furthermore, the first impression indicates that all of these variables may magnify economic volatility which induces economic crises, except for financial openness which smoothens volatility. Nevertheless, this is not conclusive and further analysis is needed. The next step forward is to conduct a cointegration test based on the PMG approach developed by Pesaran et al. (1999) to provide more conclusive findings. Table 2 summarises the findings.

Table 2. Panel cointegration estimation

|  | Long-run coefficient | Short-run coefficient | Adjustment coefficient | Constant | Sample size (N x T) |
|---|---|---|---|---|---|
| I – Constant (Level) [AIC – 3,3,3,3,3] Maximum lag length set = 4 | | | | | |
| Bank | -0.0102*** | 0.0269 |  |  |  |
|  | (0.0029) | (0.0199) |  |  |  |
| Stock | 0.0065*** | -0.0226** |  |  |  |
|  | (0.0013) | (0.0106) | -1.7147** | 0.0657** | 160 |
| Fin Op | -0.0049* | -0.0198** | (0.6887) | (0.0282) |  |
|  | (0.0025) | (0.0095) |  |  |  |
| Trd Op | -0.0006 | 0.0153 |  |  |  |
|  | (0.0011) | (0.7984) |  |  |  |

| | II – Linear Trend [AIC – 4,4,4,4,4] Maximum lag length set = 4 | | | | |
|---|---|---|---|---|---|
| Bank | -0.0316*** | 0.0535 | | | |
| | (0.0019) | (0.0359) | | | |
| Stock | 0.0192*** | -0.0469* | | | |
| | (0.0017) | (0.0249) | -2.3376* | 0.4144** | |
| Fin Op | -0.0038** | -0.0222 | (1.1792) | (2.0531) | 155 |
| | (0.0019) | (0.0187) | | | |
| Trd Op | -0.0036** | 0.0235 | | | |
| | (0.0014) | (0.0203) | | | |

*Note.* The value in parentheses denotes the standard errors of corresponding estimates. ***, ** and * indicate the significant level at 1%, 5% and 10% respectively.

Table 2 is divided into two parts; the first part is the results obtained at constant (level) condition, while the second part represents the results obtained with linear trend condition on the PMG estimations. The lag length selection is based on Aikake Information Criteria (AIC) while the numbers in the square brackets represent the optimal lag length selected when the maximum lag length is set at four. In this study, the AIC was preferred to the Schwarz Bayesian Criteria (SBC). This is because AIC tends to move from lowest possible lag order at a slow rate as the sample size increases, which may wander the chances of omission of relevant variables bias from the regression. Having said that, overestimation of the order of Auto Regressive (AR) seems preferable.

According to Pesaran et al. (1999), the decision to reject the null hypothesis of no causality can only be made when the Error Correction Term (ECT) is negative and significant. From the table, the ECT is indicated by the adjustment coefficients (Note 23). The estimations based on both conditions suggest that the existence of a long-run relationship between financial development and openness towards economic volatility cannot be rejected at significance levels with 5% and 10% respectively. However, since the ECT is only significant at 5% and 10% significant level, further cointegration test is conducted to confirm for the existence of a stable long-run relationship among the variables as a robustness check. For the purpose, the Pedroni (1999) cointegration test is conducted. It is pointed out that the method estimate the pooled function through a "group mean" panel fully modified Ordinary Least Square (FMOLS) which not only generates consistent estimation in a small sample, but also is excellent in controlling for potential endogeneity in the right hand side of the model and serial correlation. Thus, the findings further contribute to the literature by addressing one of the most important questions of spurious correlation in the pooled estimations model. As the results suggest, the existence of a stable long-run relationship between financial development and openness towards economic volatility is further confirm at 1% significant level for the entire tests. This adds confidence to the PMG estimations that the existence of a long-run relationship among the variables cannot be rejected. The results are presented in Table 3.

Table 3. Pedroni cointegration test

| Test | Within-Dimension | Between-Dimension |
|---|---|---|
| υ- Statistic | 3.450*** | - |
| σ- Statistic | -4.086*** | -3.356*** |
| PP- Statistic | -13.572*** | -14.587*** |
| ADF- Statistic | -9.143*** | -8.997*** |

*Note.* *** indicate 1% significant level. The tests are conducted under deterministic trend and intercept trend assumption with AIC lag length selection criteria.

Thus, this indicates that the null hypothesis of no co-integration can be rejected and ascertains the existence of a significant consistent long-run relationship between economic volatility and financial development, together with openness in ASEAN-5 countries. The estimations also fit the actual graph very well. Hence, adding to confidence that the model may predict the effect of financial development and openness on economic volatility with highest precision. The actual fitted residual graph is presented by Figure 2 and 3 for references.
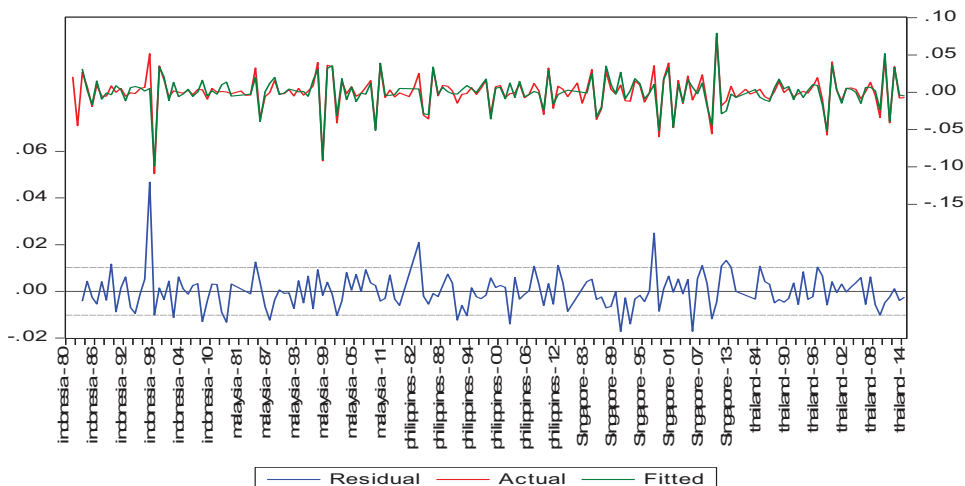
Figure 2. The actual fitted graph based on constant (level) settings
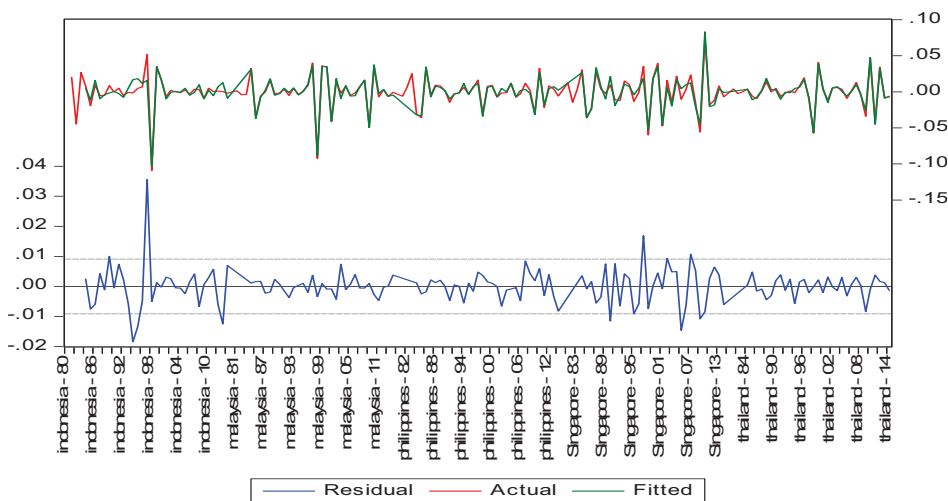


Figure 3. The actual fitted graph based on linear trend settings

From Table 2, the ECT also indicates that the variation in economic volatility is corrected by 1.71% when the first condition is applied and 2.33% when liner trend setting is in place over a year. In other words, when there is a shock on financial development and openness, the rate of economic volatility to restore to its equilibrium in the first year is as indicated by the adjustment rate (ECT). This means that the adjustment takes place relatively.

However, the questions remained was that financial development and openness may induce the likelihood of economic crises or they further instil economic stability. The answer to the questions is provided by the long-run and short-run coefficients in Table 2 (Note 24). As presented, the finding highlights that there is no evidence that higher financial and trade openness may further induce economic volatility in the long-run. It is a quite surprising result as one would expect that both financial and trade openness to significantly magnify economic volatility, which could trigger economic crises as hypothesised earlier. Instead, the result further suggests that both financial and trade openness may even have lower economic volatility in the long-run (Note 25). As indicated, an increase in financial openness may reduce economic volatility by 0.49% when the first condition is applied and 0.38% under the second condition. On the other hand, when there is a 1% increase in trade openness, economic volatility tends to reduce by 0.36% as suggested in the second condition, while there is no significant effect flowing from trade openness towards economic volatility in the first condition.

Therefore, this finding further challenges the earlier finding of Rodrik (1998), Stiglitz (2000), Blankenau et al. (2001), Razin et al. (2003), Kalemli Ozcan et al. (2003), Arora and Vamvakidis (2004), Schmukler (2004a; 2004b), Aghion et al. (2004) and Buch et al. (2005), for instance and adds to the existing literature that both

financial and trade openness tend to reduce economic volatility and instil economic stability. This shows that financial openness may act as a medium of international risk sharing rather than the medium of contagion and increase investment portfolio diversification, while trade openness may further improve resource allocation, lower consumers' prices and lead to more efficient production, thus reducing volatility. This findings is parallel with such as Razin and Rose (1992), Beck et al. (2004), Chinn and Ito (2006), Bekaert et al. (2006) and Samsudin (2013) who also found the existence of smoothing effects flowing from financial and trade openness towards economic volatility in the long-run.

On the other hand, both segments of financial development also are found to significantly influence economic volatility in the long-run. From the results, an increase in the banking sector development tends to significantly smoothen economic volatility in the long-run by 1.02% when the model is in constant (level). Moreover, an increase in banking sector development reduces economic volatility by 3.16% in the long-run when linear trend condition is applied. In contrast, a 1% development in stock market sector could magnify economic volatility by 0.65% when the first condition is applied and 1.92% when the second condition is applied in the long-run as suggested. This shows that the banking sector development tends to reduce the chances of economic volatility, while the reverse is applied to the stock market sector development which is more likely to trigger economic crises in the long-run.

It is suggested that the nature of banking sector development may have a favourable impact on economic volatility in providing long-term financing and greater banker capabilities in detecting riskier investments. Besides, an increase in banking sector development may also increase its ability and efficiency to manage risk and detect more profitable investments. Hence, avoiding the chance of capital flight and stimulating investment in the economy may, in turn, preserve economic volatility. Other characteristics of banking sector development, such as improving capital structure, better resource allocation and facilitation of resource mobilisation, may lead to lowering economic volatility as these characteristics may preserve positive economic activity. This finding is also in line with Silva (2002) and Kose (2006) who found that banking sector development tends to reduce economic volatility. Particularly, Silva (2002) pointed out that the banking sector could reduce risk and volatility through its role in facilitating diversification and reducing asymmetric information. This effect, also known as the double welfare improvement effect, is useful for easing economic problems, especially in developing countries. In addition, Kose (2006) also added that a well-developed financial system could further reduce volatility by providing access to capital that may assist in diversifying the production base and hence reduce the effect of industrial specific shocks.

Stock market sector is more likely to be more susceptible towards large and sudden capital outflows, while its tendency to provide capital towards riskier investments also may worsen volatility in a longer term. It is also argued that as stock market sector gets more developed, it tend to offer more sophisticated financial instruments which are mostly risk indivisible. As pointed out by Acemoglu and Zilibotti (1997), the incapability to diversify risk may result in more volatility. Additionally, Mougani (2012) asserted that economic volatility is becoming more critical as portfolio investments tend to establish a short-term commitment. This may explain the positive nexus between stock market development and economic volatility in the long-run in this case. Furthermore, as pointed out by Singh (1997), a country which is at the intermediate level of stock market development is likely to make it a poor guide for effective investment, which may well applied to the ASEAN-5 phase of stock market development (Note 26). This also shows that the imperfections of capital market tend to magnify the effects of momentary productivity shocks and make them more persistent (Kiyotaki and Moore, 1997). Therefore, it is no surprise that in most occasions of economic crises, stock market sector tends to play an important part in worsening the situation.

In the short-run, it seems that the effect of both financial sector development and openness on economic volatility is not as obvious as in the long-run (Note 27). In terms of openness, the only variable which may significantly influence economic volatility is the financial openness in the first model (constant (level)). As suggested by the first model, financial openness tends to reduce economic volatility by 1.98% in the short-run. However, no significant effect is observed despite its smoothing effect in the second model. In terms of trade openness, even though there is a magnifying effect flowing of trade openness towards economic volatility in the short-run, the effect is not significant. This is also similar to the effect of banking sector development towards economic volatility in the short-run, where there is no significant effect observed despite its magnifying effect. This conclusion is applied in both conditions, constant and in linear trend. Except in the case of stock market sector development, it seems that economic volatility is significantly relaxed in the short-run. As suggested by the first condition, an increase in stock market sector development should reduce economic volatility by 2.69% and 4.69% when the second condition is applied (linear trend).

The reducing effects flowing from stock market sector development towards economic volatility in the short-run can be explained by the benefit obtained from higher capital entry as it may reduce financial constraint faced by industries through access to external financing. With greater degree of financial openness, the amount of capital injected into the economy may further smoothen consumption shocks in the short-run which may mitigate excessive volatility. Interestingly as the result suggests, the effect of financial openness in controlling for economic volatility flowing from short-run to the long-run highlights the main role of financial openness in promoting greater international risk sharing. Except for stock market development in which the reducing effect does not flow from short-run to the long-run; greater stock market development may magnify economic volatility in a longer term due to vulnerability to capital turnaround.

In summary, greater openness and financial development may not lead to excessive economic volatility and are not likely to trigger economic crises in both long-and short-run. The only exception is in the case of stock market development in the long-run, where it may act as a medium of transmission of economic shocks. It has the potential to drag ASEAN-5 into another series of economic crises if it is not carried out properly. Therefore, promoting stock market sector development should be done with diligence and under strict regulation. Otherwise, the lesson learned from the 1997 East Asia financial crises may resurface and the current experience on the EU economic contagion may further extend its harmful volatility to ASEAN-5 region. The findings are robust to other tests such as Pedroni (1999) cointegration test and also fit the actual graph very well as presented in Table 3 and Figure 1 and 2. Therefore, these additional tests add to confidence on the result obtained.

## 6. Conclusion

In summary, the existence of a stable long-run relationship between financial development and openness towards economic volatility cannot be rejected. The findings are robust to other cointegration tests which add to confidence to the obtained results. In addition, the estimated coefficients also fit the actual graph very well which indicates that the measurement's error is at its minimum.

Cumulatively, there is no evidence that greater openness and financial development may drag ASEAN-5 into another series of economic crises in the long and short-run. The only exception is in the case of stock market sector development, where greater development on the sector is likely to trigger economic volatility in the long-run. This shows that the source of instability in ASEAN-5 is likely to be driven from greater stock market sector development. Therefore, deregulation and financial reform of the sector need to be carried out with diligence. Failure to do so may trigger economic volatility which may drag the region into another series of economic crises. Suffice to say, the re-current and rapid economic crises in recent decades have nothing to do with greater openness and banking sector development, but rather on stock market sector development in the case of ASEAN-5 countries. This also explains why the ASEAN countries has the least effects from the EU and US economic crises, as openness is more likely to be the medium of promoting stability through international risk sharing rather than the transmission of economic contagion.

Based on the findings, we can suggest that such effort by ASEAN under the Chiang Mai initiative, ASEAN Free Trade Area (AFTA), the ASEAN Comprehensive Investment Agreement (ACIA) and the ASEAN Economic Community (AEC) has proven to be fruitful to further liberalising their financial and trade sector as the economies tend to benefit from the experiences. Other inter-regional efforts such as under ASEAN+3 and Australian and New Zealand Free Trade Area (AANZFTA) should also be applauded as both act as an important engine in promoting greater economic stability. Therefore, further mutual agreement via inter and intra-regional economic arrangements in promoting greater openness in both finance and trade should be initiated and explored.

On the other hand, further banking sector formation may also benefit from these economies. This shows that the past financial formations are able to instil economic stability through greater capability in detecting riskier investments, work efficiency and long-term loan offering which is proven in stabilising the consumption shocks. It is suggested that if ASEAN could explore any possibilities of economic arrangements in promoting greater banking sector formation at regional or inter-regional level, it may further strengthen the smoothing effects flowing from banking sector development towards economic volatility. Nevertheless, the only exception and extra attention needed is in developing its stock market sector development. As the results suggest, stock market sector may be the medium of transmission for economic volatility which is in need of extra attention. If not carried out properly, it may drag ASEAN-5 into another series of economic crises in the long-run. Therefore, the ASEAN-5 effort in promoting the Asia Bond Market and the Asia Bond Fund initiative should be done with diligence. Further protective policy is recommended to be in place in order to protect the market from undesired external shocks which could trigger crises. Even though it seems a step back from promoting greater stock

market sector development, it is essential in sustaining economic stability in the long-run. With this step, ASEAN-5 is unlikely to emulate the recent EU and US economic flux.

**Acknowledgments**

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**Notes**

Note 1. The ASEAN-5 refers to Indonesia, Malaysia, The Philippines, Singapore and Thailand.

Note 2. These five economies are the original setup of ASEAN and remained as the main players in ASEAN with a consistent combined GDP of more than 80% of all ASEAN countries. This justify why these five economies were in the centre of focus rather than the whole region. Although a study of all the member countries of ASEAN would be more comprehensive, the data gathering process is not an easy task for countries such as Myanmar, Brunei, Laos, Cambodia and Vietnam.

Note 3. If ASEAN-5 is count as a single market, they rank after China especially in electrical and manufacturing products.

Note 4. In this study openness is divided into two perspectives, which is trade and financial openness.

Note 5. Financial development is defined as an aspect of economics that concerns the growth of the financial sector, focusing on finance and investment management, and which involves banking institutions and stock markets, respectively.

Note 6. As stressed earlier, economic volatility has become more severe in the event of crises. Therefore, the discussions in this section will focus on the literature related to business cycle and economic volatility.

Note 7. The finding is based on the dynamic effects of trade openness and financial development by utilizing Pooled Mean Group (PMG) estimations on 88 countries for the period of 1960 to 2005.

Note 8. Essentially, when the data had taken the form of a logarithm, the entire data will have a similar unit of measurements as well as reducing widely varying quantities to much smaller ranges.

Note 9. Turning the data into logarithm form may reduce the chances of the variables to exhibit an exponential or polynomial trend, hence increasing the likelihood of the model to be correctly specified as linear.

Note 10. According to Catao and Solomou (2005) and Catao and Terrones (2005), endogeneity can be further reduced in a dynamic panel model and also deals with the substantial persistence of financial development and openness adjustments and depicts the potentially rich economic volatility adjustments dynamics.

Note 11. As pointed out by Kao (1999), the estimated structural parameter tying two independent non-stationarity variables tend to converge to zero in the case of panel data analysis, while it is a random variable in the case of time series. In other words, the point estimations of the parameters value will still be consistent. However, the non-stationarity panel data may lead to biased standard errors. Since the PMG estimator is able to take both $I(1)$ and $I(0)$ stationarity variables in the same model, there will be less issue with biased standard errors. Hence, it highlights the advantages of PMG estimator.

Note 12. The data are regularly updated and can be obtained directly from the author or through http://www.philiplane.org/EWN.html.

Note 13. This study utilized annually data.

Note 14. BP filter tend to eliminate unit roots and de-trending the time series stationary. It also does not suffer from variables timing relationship bias as in first differencing method and it detach business cycle frequencies without re-weighting components as well as establish the most optimal estimation of ideal band-pass filter through moving average with infinite order. Finally, through BP filtering method, the business cycles components generated are independent from the length of the sample period.

Note 15. Please refer to footnote 5 for the definition of financial development.

Note 16. The questions about which segments of financial system development may significantly smoothen or magnify economic volatility have been without any merit, particularly with regards to ASEAN-5 countries.

Note 17. Domestic credits to private sector indicator can be referred to as a financial resource made available to the private sector through loans, purchases of non-equity securities, trade credits, and other receivable accounts which establish a claim for repayment. This measurement excludes credit granted to the public sector and credit issued by the central bank. It is recognized that the private sector is more efficient in utilizing available funds, thus reflecting efficient resource allocation. This indicator reflects an overall development in the banking sector as well as financial depth.

Note 18. The other two indicators reflect the activeness of stock market which comprises of profit taking foreign investors and foreign fund in the financial system, which may be an insufficient measure of financial development.

Note 19. The *de facto* indicator might reflect the country's history of financial openness as it depicts the overall accumulation of assets and liabilities.

Note 20. If, let say, a country has lifted barriers to more liberalise condition, this does not imply greater capital account openness if the right to engage in international transaction is not fully utilized; then the *de jure* would overstate the actual level of capital openness.

Note 21. There are some concerns with the *de jure* financial openness measurements because the data for Thailand exhibited no variation from 1970 to 2007, which signifies inconsistencies with the financial openness experienced. It is well known that the Thai government has taken an important step in reducing FDI restrictions and financial barriers as well as liberalising foreign borrowings, especially between the late 1980s and the mid-90s. In the post 1997 crisis era, the reverse may apply hence reflect some variation in financial openness which is contradicted by the data.

Note 22. The *de jure* measurement of financial openness was constructed by Chinn and Ito (2007b) who derived the index of capital account openness (KAOPEN) from four binary dummy variables which reflect the cross border financial transactions restrictions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). There are some doubts with this, as the dummy variables are produced by utilizing the principal components analysis and may suffer from measurement error because some variation of the underlying data may not be documented.

Note 23. The ECT also indicate the speed of adjustment which restores the equilibrium from short-run to long-run following a shocks in the dynamic model. Therefore, the ECT is also referred as the adjustment coefficient.

Note 24. Since the PMG approach may allow for the error variances to vary across countries in the short-run, the short-run causality coefficients for each country can be estimated. However, it will be made available upon request.

Note 25. The only exception is when the first condition is applied (constant (level)) where the smoothing effect of trade openness on economic volatility in the long-run is not significant. However, in the second model (linear trend), trade openness significantly reduced economic volatility at 5% significant level.

Note 26. Even though it is argued that Singapore may have reached the level of developed economy, in term of financial sector development Singapore are still considered as an emerging economy. These are reported in several       publications       and       the       following       links       might       clarify       the       arguments. http://www.economist.com/node/2350141,
http://business.nab.com.au/east-asian-emerging-market-economies-june-2014-6919/,
http://www.nasdaq.com/article/emerging-markets-singapore-remarkable-50-years-cm496488.

Note 27. The short-run causality presented in Table 2 is the aggregate estimations based on ASEAN-5 countries. The individual short-run causality at each country level is also available. Nevertheless, for simplicity the short-run causality at each country level is not discussed and only made available upon request.

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# Gangs in Asia: China and India

Marek Palasinski[1], Lening Zhang[2], Sukdeo Ingale[3] & Claire Hanlon[1]

[1] School of Natural Sciences and Psychology, Liverpool John Moores University, Liverpool, UK

[2] Department of Sociology and Criminal Justice, Saint Francis University, Loretto, USA

[3] DES's Navalmal Firodia Law College, Pune, India

Correspondence: Marek Palasinski, School of Natural Sciences and Psychology, Liverpool John Moores University, Liverpool, L3 3AF, UK. Tel: 44-151-904-6304. E-mail: m.palasinski@ljmu.ac.uk

## Abstract

The problem of gang crimes dates back to the first cities founded thousands of years ago. Its traces can be even discerned in the draconian Hammurabi code of ancient Mesopotamia. To various extents and in many different forms, including muggings, pickpocketing, prostitution and turf wars, it has also plagued ancient Egyptian, Greek and Roman cities, giving ruling classes nightmares and heavily curbing the frequency of their evening walks. Today's cities across the world continue to be afflicted by them. Although today's gangs differ, in the increasingly globalized and interconnected world, they also share many characteristics, which have been explored in great depth and with a particular focus on the 'Western' culture. This relatively short review will cover the issue of gang crime in the rising superpowers of China and India. Given the scarcity of available data, it will be limited, but it is hoped that it will inspire further focus on these places that tend to be undeservingly ignored in the academic discourse of the West.

**Keywords:** gangs, crime, Asia

## 1. Gang Crime in Contemporary China

*An online manhunt has been launched in China to try to track down four youth gang members who punched, kicked and threw a slab of rock at a defenseless lying teenager before urinating on his face. The 'happy slapping' attack, which apparently took place in Beijing and lasted over 5 minutes was then posted online, prompting the Ministry of Public Security to launch an official investigation.*

Youth gangs and gang-related crime in China were not considered as social problems during the 1950s and 1960s because Mao's regime exerted strict political and social control. However, since the nation implemented its economic reforms in the late 1970s, youth gangs and gang-related crime have been on the rise. The gangs have also been associated with the changing reality of youth offenses in China since the 1980s. The official statistics indicate that from 1991 to 2001, the number of reported juvenile delinquents increased from 33392 to 49883 and had a sharp increase to 70086 in 2004 (Luo, 2007). As youth offenses increased, so did youth gangs and gang-related crimes. For example, Zhang (2009) found that in 2003, 14 youth gangs, which involved a total of 51 members, had been convicted in the city of Ningbo in the Zhejiang province, and that by 2007 the number increased to 48, with 178 members involved.

Despite the progress in exploring gangs across the world, research on gangs in China is very limited. Even their very presence has not been subjected to any fully comprehensive analysis, making the study of their characteristics even more difficult (Liu, 2008). Delinquency rates and their correlates are also sparse and unreliable, although it has been suggested that rising expectations of living standards, growing income inequality and a relaxation in social control are behind the increase in crime (Deng & Cordilia, 1999). It has been shown, for example, how the relaxation of state control and a growing impact of foreign cultures are linked to the rise in crime (Dutton, 1997). In light of the sweeping and tradition-defying waves of global trends, which have been associated with social adaptation struggles (Zhang, Messner, & Liu, 2008), this research gap is clearly unjustified.

Some of the reasons behind the rise in gangs have been attributed to the Internet, which despite its censorship can still play a substantial role in spreading information on illegal activities. However, although the rapid shifts

in social and economic conditions, globalisation and growing use of the Internet can shed some light on gangs in China (Liang & Lu, 2010), they cannot account for the full extent of juvenile delinquency. Studies in China have suggested that more than 80% of youth offenses are gang-related (Zeng & Xie, 2006). For example, Lin (2005) reported that 89 of the 124 juvenile cases indicted in the city of Jieyang of the Guangdong province in 2004 were gang-related. Similarly, a study of 966 juvenile offenders in the city of Beijing and the provinces of Hubei and Guizhou found that 75% of their offenses were gang-related (Yao, 2011).

Whilst there are some data on Chinese juvenile justice and delinquency, they remain largely descriptive and offer little basis for any analysis of patterns or trends (Zhang, 2008), partially because the use of self-report studies in China has been very limited. Within this limitation, however, the offending correlates of the officially recorded data of the Wuhan birth cohort of 1973, for example, were subjected to analysis. It was found that theoretically-oriented criminological covariates, like negative peer influences, troubled familial relationship, and poor school attachment and attainment could account for variability in offending (Friday, Ren, Weitekamp, Kerner, & Taylor, 2005). Using self-reported methods in a study of middle and high school students from rural and metropolitan areas was also explored, showing that social strain, particularly among boys, was related to participation in juvenile delinquency (Bao & Pi, 2007).

Official data show that the average age of juvenile delinquents decreased from 17.6 to 15.7 years old from 1998 to 2003 (Luo, 2007). Many juvenile delinquents committed their first crime at the age of 14 and about 81% of them were involved in criminal behavior by the ages of 14 and 16 in 2007 (Luo, 2007). Case studies of youth gangs and gang-related crime also show a similar trend. For example, Fang and Feng (2013) reported a gang case cracked down by police, which involved ten teenage members who were all school drop-outs and committed 113 thefts of items, including stolen cash, cigarettes, hard liquors, laptops, digital camera and other goods.

Survey data in China have shown that rural migrants in urban areas are more likely to be involved in law-breaking behavior and children from migrant families are more likely to be involved in gang-related activities. A study in the city of Tianjin suggested that migrants are likely to be poor and reside in more deprived neighborhoods, where the cost of housing and daily expenses tends to be low (Zhang, 2004). Consequently, the children from migrants' families are unlikely to have suitable environment and financial resources in their transition to urban life, fuelling their frustration and resentfulness.

It appears that gang-related crime in China has become more serious and violent in the recent years, which is consistent with the general rise of delinquency in the whole country. As the Internet has become popular, some young people use it as a communication and connection 'vehicle' for developing and forming groups for illegal purposes (Ding & Han, 2012; Wang & Xia, 2009; Zhao & Feng, 2011).

The gangs are usually territorial, identifying with the specific 'turf', and their crimes tend to be 'cafeteria-style' and not particularly serious, albeit severely punishable under the law (Zhang Ying-li, 2009). Their size is also usually quite small. For example, using data collected from offenders in Ningbo's prisons, it was found that the average size of youth gangs ranged from the size of 4.6 to 5.6 members (Zhang, 2009). Their membership also tends to be rather transitory and age-graded, while their organization seems to be rather low, with few characteristics that reflect those of more formal bodies. The mobility of their members appears to be high, so that once a criminal activity has taken place, some members may leave the gang and be replaced by new recruits.

Like most gangs, in the West, the Chinse ones typically have their own nick names, rules and codes of conduct. A survey of juveniles in a detention center in the city of Nanjing showed that when planning to commit a crime, each individual member was assigned a specific task, had to pay a membership fee and could expect a penalty if the rules were violated or when an assigned task was not performed up to the required standard (Lin, 2005).

As Chinese studies indicate, the primary goal for some young people to join gangs is to develop friendships and seek group identities for protection (Huang, 2009) as they may be rejected by their 'normal' peers and can struggle to receive full care and attention from their busy parents and even teachers. Consequently, by participating in illegal group activities a new gang member expects to be accepted and rewarded in both emotional and material terms.

In terms of international comparisons, a study using self-reported delinquency and behavior questionnaires with high school students in Los Angeles, Seoul and Tianjin found high levels of study participation across the three groups, with nearly 95% of Chinese students completing a useable questionnaire (Greenberger, Chen, Beam, Whang, & Dong, 2000). It revealed that Chinese and Korean students self-reported lower levels of delinquent behavior than their American counterparts. However, they were all similar in a common set of predictors, like the behavior of close friends and the sanctions close friends would impose for misconduct.

A comparative study of self-reported behavior of high school students in Shanghai and Brisbane showed that although their levels of delinquent behavior were substantially lower in the former sample, co-offending was more common in the Shanghai sample (Wei, Homel, Prichard, & Xu, 2004). A different comparison of school-based samples from Beijing and an urban area in the Rocky Mountain area of the US, showed that fifty-two percent of US boys and girls reported the presence of gangs in their neighbourhoods, while 49 % of Chinese boys and 47 % of Chinese girls reported the presence of gangs in theirs (Jessor et al., 2003). This indicates that the self-reported methodology is quite practical in the Chinese setting, and that the differences in exposure to youth gangs across US and Chinese samples may be at least somewhat comparable. It is apparent, however, that the group context and co-offending are more important correlates of juvenile offending in China than in the more individual-oriented American culture.

## 2. Gang Crime in Contemporary India

*In India, the Gajuwaka police arrested three minor boys for stealing electronic goods and other valuable items, including motorbikes, from four houses at various places in the city. The trio, who all came from deprived families and were school dropouts, formed a gang and were involved in several house break-ins.*

There is already a large body of research (mostly Western) on youth gangs and juvenile delinquency, but, like in China, in India they are also largely under-researched, partly because of a general lack of focus on youth as a social category. Like in China, in India, firearms are not easily available either, and they are rarely seen in the hands of youngsters who use more traditional weapons, like arson, fists, poisonous herbs, as well as blunt and sharp instruments. It appears that the first generation of gangs in India started off and built their foundations through violent crimes, such as extortion rackets and *supari* (contract) killings. These gangs then invested their money into subsidiary illegal businesses, such as land grab operations, betting and gambling rackets, and illicit liquor trade (Raghavan, 2010).

Some gangs also diversified into drug trafficking and fake currency rackets, flourishing during the eighties and nineties and gradually increasing their spheres of influence. They also developed contacts with legal business partners and/or invested in legal businesses, such as real estate, movies and the stock market to further tighten their grip on power. This financial power helped them to develop even closer ties with the authorities – the police, local officials and politicians who became involved in powerful cartels that are mutually beneficial to each other (Zaidi, 2012). It is also argued that the Indian mafia is heavily involved in the Mumbai-based Bollywood film industry, providing cinematic production with funds and using them as fronts for illegal activities. The connections between the Indian movie industry and criminal networks became a poorly kept secret as some of the biggest names of Bollywood could be spotted in the company of underworld figures at cricket matches and parties (Srivastava, 2003).

Being a major transit point for heroin from the Golden Triangle and Golden Crescent en route to Europe, India is also the world's largest legal grower of opium, which facilitates youth gang recruitment. The causes of increasing youth gang involvement, however, have been generally ignored by researchers in India. Importantly, around sixty percent of its people live in slums, its infrastructure is underdeveloped, with health, education and sanitation facilities out of reach for most of the population. As Mehta (2006) says, 'the real luxuries are running water, clean bathrooms, and transport and housing fit for human being. …The greatest luxury of all is solitude' (p. 135).

According to Raghavan (2011), threefold strategy is used in India to strengthen the gang cohesion. Firstly, the need for money to maintain a certain lifestyle and the glamour associated with gangs is exploited by gang leaders to win new recruits. Money power is used to seduce the recruits into the network. The classic method involves getting them used to good food, wine and women, the assumption being that once they get used to this 'high life', their need for money would spur them on to get firmly involved in more serious gang activities. Another motivation is the need for creating a name for oneself. The thrill of knowing a *bhai* (don) and being in close proximity to him is sometimes enough to lure a youth into the net. A third strategy is to help young boys in prison by offering them legal aid and gradually luring them into the gang. A youth who has been arrested and is in jail for violent offences may be offered the job of a handler or work under an existing handler in the area that he hails from. Handlers also cultivate boys in areas where they live/operate and the boys who show 'daring' traits or have history of violent crimes are targeted in particular.

Although youth gangs appear to be increasing their involvement in drug trafficking in India, research has not documented extensive networks of drug trafficking as an organized activity managed exclusively by youth gangs. Like alcohol, many psychoactive substances, such as *ganja or bhang,* are not regarded as drugs amongst most Indian families. In other words, they are not seen as 'hard drugs', like cocaine and are sometimes even viewed as

having medicinal, religious and spiritual properties.

Though gangs are primarily male dominated, female gang membership is on the rise. Female gang members continue to perform the traditional subordinate functions of providing financial, sexual and emotional support to the male gang members. However, there is little information on the number of women and girls involved in gang violence. It is known that many young women are suffering gang-related sexual exploitation or violence, but its extent is largely hidden, although it is estimated that a rape takes place every twenty minutes in India (Smith, 2015). It also appears that the Indian government is in denial about its rape culture as it recently banned a documentary *India's daughter,* which reconstructs the infamous gang rape and murder of a young woman on a bus in Delhi. Although 'all-female' gangs do exist, they are rare and seldom the focus of the police. Furthermore, law enforcement officials are less likely to recognize or stop female gang members and have more difficulty in identifying their involvement in gang-related activities.

Undoubtedly, life in India has undergone drastic changes after social and economic development in the last two centuries. Similarly to China, as a result of rapid advancement of industrial growth, there is a large-scale migration from rural to urban areas and the processes of liberalisation, privatisation and globalisation have changed social relationships almost everywhere in India. The joint family and strong social integration of youth, which was a general rule in India, now became less common. The young people are no longer under strict parental control of family members and relatives, resulting in a rise of juvenile delinquency and crime. It also appears that government responses are failing to address the needs of youths involved in gangs and that gangs cannot be studied in India by applying international standards as 'youths' are not recognized as a distinct social category in Indian research.

This relatively short review has covered some of the main themes of gang-related problems in China and India. Given the scarcity of available findings, it is inevitably far from exhaustive and should be treated as a first-step contribution to the subject that further studies may attempt to complement and cautiously theorise. Although the data from Asia is very limited, it should not deter researchers from analysing and comparing whatever little is available. Despite the issues of gang-related crime, exploitation, and children left back home with grandparents, the firmly dominant position of cities in China, and their increasingly growing influence in India, have created unprecedented opportunities for the rural migrant workers fleeing poverty and starvation in the country. The efforts geared towards exploring these and other similar challenges that will arise with the transformation of cities will likely offer a chance to help inform public policies aimed at overcoming them.

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# Implementing Sustainable Beach Tourism Management Framework for the Royal Coast Cluster, Thailand

Maturose Prabpriree[1], Thirachaya Maneenetr[1], Phitak Siriwong[2] & Kittibordi Yaipool[3]

[1] Faculty of Business Administration and Accountancy, Khon Kaen University, Thailand

[2] Faculty of Management Science, Silpakorn University, Thailand

[3] Faculty of Law, Khon Kaen University, Thailand

Correspondence: Maturose Prabpriree, Faculty of Business Administration and Accountancy, Khon Kaen University, Khon Kaen 40002, Thailand. E-mail: maturose.pra@mail.pbru.ac.th

## Abstract

Beach tourism is one of the tourism models that most partners realize to manage to its sustainability. Integration of thoughts for various sectors was also needed for a walk to success. This research, thus, sought for ways to investigate for proper beach tourism management model with certain component. Testing will be implemented in area along the gulf of Thailand which is known by the name "The Royal Coast". The mixed-methods design was employed for the study: focus group (n=88), policy meeting (n=29) and questionnaire (n=800). Both host whose stakeholders in public and privates business in the beach area and communities and guests or tourists were asked and discussed. The results from the confirmatory factor analysis (CFA) indicated that six components were the significant factors for sustainable beach management, yielding Chi-square =10.870 Chi-square/df = 1.812, df = 6, p = 0.092, GFI = 0.996, CFI = 0.993, RMR = 0.008, RMSEA = 0.032. The sustainable beach tourism included six components of management on marketing and promotion management, tourist attraction management, participation management, environmental, cultural and education management, process, plan and policy management and personnel management respectively. All six components was assigned and implemented for testing in sustaining beach tourism management on the Royal Coast.

**Keywords:** sustainable tourism management, beach tourism, The Royal Coast

## 1. Introduction

International tourism has increased in growth since 1950 but many other types of tourism; namely, natural tourism, cultural tourism, historical tourism and other have also become popular (Suanez & Bruzzi, 1999). Beach tourism has increased along with the development of mass tourism emerged the 1970's (Buhalis, 2000) and depends on natural attractions such as climate, landscape, ecosystems, cultural attractions, historical and cultural heritage, arts and crafts, traditions and other resources (United Nations Environment Programme [UNEP], 2005). Most tourist around the world are interested in visiting attractive beaches and therefore beach have become one of the fastest growing areas of tourism (Hall, 2001) because they offer opportunities for leisure, physical activities and pleasure of all ages and social groups (Gormsen, 1997; Butler, 1980). Beaches are an important part of the tourism market. (Houston, 2013) The World Tourism Organization [UNWTO] said the coast or beaches have large areas where tourism industry has seen steady growth like in the Mediterranean, one of the most beautiful coastal and beach areas in the world which had more than 246 million tourists in 2005 and will reach up by 150 million in 2025 compared with 2005 (Blue Plan, 2008). These studies show that beach tourism is an important factor that can affect other parts of the hospitality industry as well.

However, the demand for beach recreation has put pressure on the sites (Lucrezi, Saayman, & Merwe, 2015) in terms of changes in environment and land use involved with new accessibility and recreational use (Swarbrooke, 1999; Koutrakis et al., 2011; Veloso-Gomes & Taveira-Pinto, 2003) and the more complex negative impact involving development, promotion, over carrying capacity, crowding, transportation considerations and the unequal link between environment management and marketing (Hall, 2001; Mora, 2008). In additions, Anthony (1997) showed his concern for cultures and community in these areas being overly influenced or change by visiting persons. The negative impact of tourism development needs to be studied carefully involving

stakeholders to seek a balance between economic advantages and good environmental standards. Sustainable beach management is challenge for both natural or artificial beaches.

Sustainable tourism is considered important and necessary thing for tourism resource management (Thomson & Jahn, 2009). This sustainability is important not just for niche market or alternative tourism but also used for all types of tourism destinations and mass tourism. The sustainability has to balance three aspects of tourism development concerns including visitors' needs, industry, and the host community (UNWTO & UNEP, 2005) and focus on maintaining and conserving environment, making and distributing fair benefits to all stakeholder and long term economic management and respecting socio-cultural value and conservation of cultural heritage (UNWTO, 2004). Moreover, another dimension for determining sustainability includes administration and management (Mowforth & Munt, 2009; Holladay, 2011). Page (2007) states that trends and the future of tourism destination management have been altered to be more integrated several dimensions like innovative products and services, stability, and balancing for economic, social, culture and environment aspects.

Beaches are an attractive destination with natural beauty, favorable climate, landscape, culture, and tradition management. It has been recommended that beach tourism management can be achieved according to how well balanced public and private supply is with demand (Gunn, 1994; Giraldi, 2009) along with sustainable integration of economic, environmental, social and culture dimensions (Hult, 2011). In order to find ways and guidelines to make beach tourism compatible, the research applied three mains approaches: the sustainable tourism development by UNWTO (UNEP, 2005), the principle of Integrated Coastal Zone Management [ICZM] (Commission of the European Communities, 2000) integrated as an international concept and finally, the Thailand beach tourism standard.

According to the literature, beach attractiveness or a quality beach, is based on destination attributes; climate, landscape, culture, people, activities and facilities (Hu & Ritchie, 1993; Goodrich 1978). Determining beach management has to be carefully studied, surveyed, analyzed and considered (UNWTO, 1994). Then good beach tourism management will increase capacity socially and environmentally, result in safe habitats, encourage high employment and high occupancy rates, and, effective waste management, recycling and result in environment rewards (Blancas, Lozano-Oyola, González, & Caballero, 2010) as well as cultural benefits (Botero et al., 2013). Sardá et al. (2015) states that the environmental quality standards and environmental management systems have been widely used for beach managers, such as the Ecosystem-Based Management System. (Sardà, O'Higgins, Cormier, Diedrich, & Tintore, 2014) The important factors for beach management are cleanliness, safety, protection, management, and, facilities and services (Chen & Bau, 2016). Certification of beaches, for example, by eco-label or blue flag, is very important in role of protection, management, planning (Ergin, Oˇzˇolcer, & Sahin, 2010) and has a positive effect (Capacci, Scorcu, & Vici, 2015). It is also the most useful for creating an image of environmental destination, increasing competitiveness, improving beach service quality and raising environment awareness (Mihalicˇ, 2000; Honey, 2002).

Approaching the sustainability of beach requires the essential components of participation, political leadership, (UNEP, 2005) planning and policy, integration, promoting accountability and quality assurance (Sardá et al., 2015). The competitiveness of the beach destination management should be planned by direct stakeholder groups, inside and outside (Sautter & Leisen, 1999). The incorporation and participation of beach managers can empower the various planning processes and outcomes (Currie, Seaton, & Wesley, 2009; Chen & Bau, 2016). The involvement and participation is a key of build local plan policy and connect to national levels. In term of beach planning, greater stakeholder participation will raise major beach issues which help beach managers make decision (Murphy & Murphy, 2004). Policies, plans, and strategic plans require continuous, well prepared processing for relatively long-term periods (UNWTO, 1994).

These will increase the quality of the beach and increase the interests of tourists (Huybers & Bennett, 2003). Thus, marketing is another important component to develop good management for the beach. It is employed to promote the area and motivate tourists such as green space interested persons, international visitors, beach lovers, and domestic tourists coming to visit and willing to pay for products and services at the destinations (Onofri & Nunes, 2013).

As beach tourism is increasing, research about beach tourism and coastal tourism has been related to area-based development (Haugland, Ness, Gronseth, & Aarstad., 2011; Green, 2012; Ioppolo, Saija, & Salomone, 2013), finding modes of activities (Anthony, 1997; Armaitienė et al., 2007), beach quality assessment (Philips & House, 2009; Capacci et al., 2015; Chen & Bau, 2016), and studying eco labels for a sustainable tourism management pattern. Some research focuses just only on one area which lacks integration for a holistic approach (Huybers & Bennett, 2003; Haugland et al., 2011). According to the study, natural resources, marketing, personnel,

participation, process and environment, the main purpose was to investigate the beach tourism management components which integration of all relative aspect of sustainable tourism management and the second also aimed to implement the context to the areas which is called "The Royal Coast" with stakeholders who steer directly for beach management.

## 2. Research Methodology

### 2.1 The Study Area

Thailand is a country that has very long range of coastal area. There are 17 provinces that own the land areas next to the sea in the gulf of Thailand and another 6 provinces by Andaman Sea. The Royal Coast area includes the four provinces; three of them, namely, Phetchaburi, Prachuap Khiri Khan, Chumphon situate by the gulf of Thailand and another one called Ranong is by the Andaman Sea. The Royal Coast make up one of the main eight tourism clusters designated by the Department of Tourism, Thailand, National Tourism Agenda 2012-2016. This study focuses on the area in the Gulf of Thailand beach areas; Cha-am beach in Phetchaburi, Huahin beach in Prachuap Khiri Khan, and Had Sai Ree beach in Chumphon. They are the most popular and well known beaches for domestic and international tourists.

### 2.2 The Research Methods

This research used mixed-methods research. The sample size was determined by Yamane's formula (1973). 860 questionnaires were distributed to tourists and local residents in the sample sites with purposively sampling and only 800 were completed usefully for data analysis. The questionnaire contained 47 attributes and five-point Likert's scale (1 = Needed the Least (No need), 2 = Needed Less, 3 = Somewhat Needed, 4 = Needed a lot, 5 = Needed the most). Descriptive statistics was used to describe respondents in terms of socio-demographic by using SPSS Software Version 20. Based on the factor analysis approach, six components were labeled as tourist attraction management, marketing and promotion management, personnel management, participation management, process, plan and policy management, and environmental, cultural and education management. Confirmatory factor analysis was employed by using Analysis of Moment Structure (AMOS). Focus group qualitative research was conducted with 88 selected community representatives and policy meeting was with 29 representatives made up of scholars, private sectors persons, government officers, heads of communities, and representatives of communities to discuss the results and implementation for each beach. Content analysis was used to describe and analyze sustainable beach tourism management.

## 3. Results

### 3.1 Socio-Demographic

The sample was made up to over half female, 56.87% and 43.12% male. The respondents were 31.50 % of 31-40 years of age and only small percentage of 5.37% were teenagers between 15-20 years old. Classified by marital status, 66% of the participants were married. With educational level, 70.62% held a bachelor's degree. Occupations were fairly balanced with the respect to company employees, 28.75 %, and business owners, 27.12% (see Table 1).

Table 1. Demographic profile of respondents

| Demographic Variables | Frequency | Percent |
|---|---|---|
| Gender | | |
| Male | 345 | 43.12 |
| Female | 455 | 56.87 |
| Age | | |
| 15-20 year old | 43 | 5.37 |
| 21-30 | 207 | 25.87 |
| 31-40 | 252 | 31.50 |
| 41-50 | 142 | 17.75 |
| 51-60 | 97 | 12.12 |
| Over 61 | 59 | 7.37 |
| Marital Status | | |
| Single | 238 | 29.75 |
| Married | 528 | 66.00 |
| Separate/Divorce | 36 | 4.50 |

| Education | | |
|---|---|---|
| Undergraduate | 170 | 17.50 |
| Graduated | 565 | 70.62 |
| Higher Degree | 65 | 8.12 |
| Occupation | | |
| Student | 45 | 5.62 |
| Company employee | 230 | 28.75 |
| Government employee | 103 | 12.87 |
| Business owner | 217 | 27.12 |
| Agriculturist | 53 | 6.62 |
| Retirement | 40 | 5.00 |
| Employee | 114 | 14.25 |

*3.2 Factor Analysis*

The six components of beach management indicated the positively value correlation ranging from 0.430 to 0.634. Bartlett's test of Sphericity Chi-Square yielded a significant result of 255.719, df = 15, p = 0.000, and the Kaiser-Meyer-Olkin measure reached the value of 0.769, greater than 0.60 (Pallant, 2007) (Table 2). The eigen values was 2.343, greater than 1.00 of appropriateness of analysis, and total variance explained 39.05%. Reliability analysis of the scales was conducted using Cronbach's alpha values (Pallant, 2007) which were 0.728, 0.732, 0.737, 0.744, 0.755, 0.779 respectively, meaning that they had high reliability and internal consistence (De Vallis, 2011) (see Table 2).

Table 2. Correlation matrix of beach management components (n = 800)

| Component | ATTMT | MARMT | PEOMT | PARMT | PROMT | ENVMT |
|---|---|---|---|---|---|---|
| ATTMT | 1.000 | | | | | |
| MARMT | 0.634** | 1.000 | | | | |
| PEOMT | 0.550** | 0.580** | 1.000 | | | |
| PARMT | 0.498** | 0.589** | 0.582** | 1.000 | | |
| PROMT | 0.462** | 0.513** | 0.544** | 0.430** | 1.000 | |
| ENVMT | 0.469** | 0.430** | 0.482** | 0.434** | 0.551** | 1.000 |
| Mean | 4.20 | 4.13 | 4.13 | 4.09 | 4.17 | 4.10 |
| S.D. | 0.699 | 0.525 | 0.670 | 0.618 | 0.549 | 0.580 |
| Bartlett's Test of Sphericity Chi-Square = 255.719, df = 15, p = 0.000, KMO = 0.769 | | | | | | |

Remark: ** p ≤ 0.01

An application of CFA for each beach management component revealed that six components have value of Chi-square =10.870 Chi-square/df = 1.812, df = 6, p = 0.092, There was an acceptable indication with the goodness of fit index (GFI) = 0.996 (Lorenzo-Seva, 2013), comparative fit index (CFI) = 0.993, the root mean square residual (RMR) = 0.008, and the root mean square error of approximation (RMSEA) = 0.032. This showed that all six components were significant and relate to the empirical data. Considering factor loading, marketing and promotion management (MARMT) had the highest factor loading at 0.71, tourist attraction management (ATTMT) and participation management (PARMT) had the same factor loading at 0.56, environmental, cultural and education management (ENVMT) with 0.38, process, plan and policy management (PRCMT) at 0.36 and personnel management (PEOMT) at 0.32 respectively. From the finding, it showed that in managing the Royal Coast area, the need for marketing and promotion was the first priority. Further, participation of all stakeholders as well as the attractions management should be focused. However, environment, process, plan and policy, personnel management should not be neglected. The researcher brought all issues to discuss with stakeholders in order to create new ideas for sustainable beach tourism (see Table 3).

Table 3. Factor loadings of beach tourism management in the royal coast

| Components | Beach tourism management | | | $R^2$ |
| --- | --- | --- | --- | --- |
| | Factor loading | S.E. | t | |
| ATTMT | 0.56 | 0.160 | 7.832 | 0.31 |
| MARMT | 0.71 | 0.207 | 8.088 | 0.50 |
| PEOMT | 0.32 | 0.162 | 6.003 | 0.10 |
| PARMT | 0.56 | 0.241 | 7.841 | 0.31 |
| PRCMT | 0.36 | 0.144 | 7.332 | 0.13 |
| ENVMT | 0.38 | 0.102 | 7.832 | 0.15 |

Chi-square =10.870 Chi-square/df = 1.812, df = 6 p = 0.092, GFI = 0.996, CFI = 0.993, RMR = 0.008, RMSEA = 0.032

*3.3 Implementation for Beach and Tourism Sustainability*

The findings of this study demonstrated that all factors are important, which implied that the successful management should be integrated with a holistic practice. Beach management should not be separately or individually managed. The participants of scholars, private sectors, government officials, heads of communities, and representatives from communities were invited to discuss about the issue. The study was presented and focused on management of the three beaches of different characteristics (Figure 1). It was found that all of them wanted to conserve the beaches as original or natural attraction as they used to be, especially measured as quality beach based on the standards. The three individual beaches presented or branded themselves uniquely; Cha-am beach is known as the beach with a variety of activities that tourists can have fun and enjoy, Huahin beach should be the one that is highly exploited to be the hub or center of the Royal Coast cluster due to its popularity, history, location, facilities, accessibility, amenities, and activities. The meeting also suggested that it should be combined between nostalgia and chic tourist attraction. Had Sai Ree beach, the small beach with less number of tourists than others, is presented as quiet beach of relaxation suitable for long-stay tourists. They discussed and agreed that the Royal Coast model could work when it is implemented for beach management planning in order to reach their sustainability.
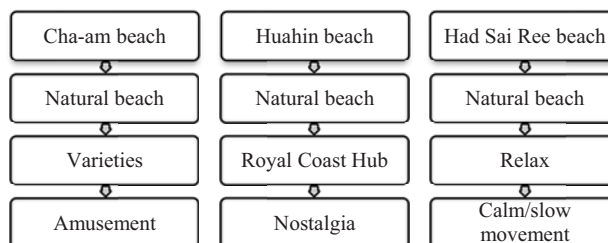


Figure 1. Branding beach destination

**4. Conclusions and Recommendations**

This article has investigated suitable beach tourism management components for the Royal Coast tourism management. The six important components of beach management were tested in the tourist destinations in three provinces. These provinces have been designated into the Royal Coat cluster despite their different beach characters. The research integrated the concepts of sustainable tourism management, ICZM, Thailand's beach tourism standards, and related research findings. The six components comprise of tourist attraction management, marketing and promotion management, personnel management, participation, process, plan and policy management and environmental, cultural and education management. The Royal Coast model of sustainable management was explained via a maximum likelihood procedure and adequate fit indices chi-square/df = 1.812, df = 6 p = 0.092, GFI = 0.996, CFI = 0.993, RMR = 0.008, RMSEA = 0.032.

To reach the sustainability, beach tourism development should be properly specified for the coastal area (Ahn & Shaftar, 2012), and well plan should be carefully considered in beach management. The ability to effectively manage beach areas should not be addressed by only one organization but includes participation from all the

stakeholders (UNEP, 2009). This could result in improved coastal attractions and increased appeal for tourist (Huybers & Benntee, 2003). In addition, situational analysis, problem differentiation, impact studies and thorough planning should be carefully considered in beach management to bring about appropriate changes and usage of beaches. Moreover, it would be useful for the beach management to specify plans and criteria. After conducting a complete strategy with all stakeholders in these three beach areas, further development and integration of coastal tourism should be implemented with community based tourism and coastal areas emphasizing the green tourism concept to reach environmental harmony and sustainable tourism for the benefit of everyone and each beach area.

The recommendations from this study can be applied for the policy makers to determine the Royal Coast Master Plan and action plan for the three coastal areas necessarily involving the participation of all the stakeholders. The community should create and monitor new attractions; such as tourism plan, activities, ecotourism, community-based tourism and work jointly with the local governments. The private sectors should also participate with local government and community, promoting and supporting products encouraging effective and safe tourism or tourism routes in nearby community. Finally, educational institutions should integrate multidisciplinary practice to study area-based tourism, appropriate tourism and sustainable tourism.

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# A Research on Speed-Centered Pre-competition Training of 1500 Meters Sportsman

Mingxia Wang[1]

[1] School of Physical Education, Qingdao University of Science and Technology, Qingdao, China

Correspondence: Mingxia Wang, School of Physical Education, Qingdao University of Science and Technology, No.99 Laoshan District, Qingdao 266061, China. E-mail: wmx7172@sina.com

**Abstract**

This paper starts from the characteristic of 1500 meters sports to explore the method of speed capacity training. Middle-distance race is a speed endurance event in track and field sports, the character of which is its high intension muscle movement for a long time. The more competitive and the nearer level of the sports, the higher request of the speed is asked. This article analyses and discusses the development of modern middle-distance race characteristics by literature data, statistics and antitheses. It points out that the guiding ideology "speed training as the center" and high speed ability training is the main and effective ways of training middle-distance race nowadays.

**Keywords:** Middle-distance race, speed training, high speed capacity

## 1. Introduction

The theory and method of modern long-distance race has been developed for nearly 100 years. Be it natural run training method, or intermittent training method, or the "marathon" training method, or Chinese famous coaches Ma Renjun's training method in 90 s, they are all centered around one contradiction--volume and intensity. And every change and development in training theory and method is followed by more advanced theory, more scientific training method and the emergence of the new world record and world champion.

After 1980, the world middle-distance theory takes a new leap, with highlighting training volume substituted by highlighting the training intensity, especially Mr. Ma, a famous coach in our country, is capable of breaking through the restricted zone in traditional theory of middle-distance race, which has injected new ideas to world long –distance race theory, method and development. Fully reveals the competition is not only of endurance, but more of the speed, more of competition between "high speed" continuous run steering ability of athletes.

1500m is a typical cyclical endurance project. Its prominent features are its special speed endurance in high speed continuous run, and high intension muscle movement in a long time. Judging from the characteristics of the project, load intensity and load capacity are indispensable elements in the training. Nowadays, only at the end of long-distance race can we get to know which one is better. Those slow in speed are bound to lose. Therefore, speed is the critical part in determine an athlete's final spurt and good grades. Throughout the past and present of the middle-distance race training, today it gradually broker through the traditional large volume training and established "speed training as the center" as the guiding ideology, which is now the main and effective ways of training middle-distance race during athletes' many years of training. However, it remains a question as to how to implement the speed training as the core of guiding thought, reasonably arrangement of the training load and intensity load proportion, the determinant of the training time and times.

## 2. Current Situation and Development Trend of the 1500 Meter Movement

World outstanding athletes not only pay close attention to the special speed training. They also break the routine, boldly to training and strength training together, such as the Romanian woman's middle and long distance running training and training in Africa and Kenya, Morocco and Russian men and women middle and long distance running training. They not only pay attention to the high speed training of the premise of the amount of artillery, but to improve the special speed as the core of training.

From the 60's to 80's, the main difference between the world's advanced level and the advanced level of the world's advanced level is the difference of the speed of middle distance runner. We have a big gap between

athletes, the general endurance level and the world's top athletes, but considering the level of special speed, the final sprint speed of the level, we lag behind. At present, the improvement of the ability of middle distance running training in our country still stays on the amount, but the modern middle distance running is the ability of the special high speed, so the special speed of the middle distance running is the core of training.

From the world record in the past years, the results of middle distance race are always changing, from table 1, it can be seen from table that in the course of time, the speed of middle distance runner is increased year by year. Which lasted 87 years, the men 10000m score from 30min58.8s to the current 26min22.75s ratio of the original record improving 4min36.5s, the average speed has increased from the initial 6.32m/s to 5.38m/s, increased by 2m/s. According to reports, the world outstanding 10000m running male athletes, the final 400m sprint about in 50-53s, average speed is 8m / S - 7.5/s, 1500m run. The last 200m sprint in 23-24s, the average rate of 8.7 - 8.3m/s, women's 10000m world record holder Wang Junxia, average velocity over the 1000m sprint to 6.26m/s. In the 26th Olympic Games 5000m final, final lap ran 57s average per 100m nearly 14.25s. A middle distance runner, in order to have such a sprint ability, it must have a higher absolute speed. For example: the British famous middle distance runner plug. Branch, in the training focus on the improvement of speed strength, 100m score reached 10.39s, 400m45.08s, he created the 800m 1min41.73s world record in 1981, until August 1997 was the Danish Kenya Kipketer to 1min41.24s's score. Time interval of 16 years, in 1995, breaking the world record of 1500m and 3000m2 Algeria's athlete Moseley is a typical speed type athlete, whose 400m score is 46.13s, the speed reached 8.7m/s. It can be seen that the speed of middle distance runner has a trend of further improvement.

Table 1. Development of world records in the middle distance race (1910-1998.11)

|  |  | Initial-results | time | Average-speed | current-results | time | Average-speed | increased-percentage | year |
|---|---|---|---|---|---|---|---|---|---|
| Male | 800m | 1:51.9 | 1912.7 | 7.15 | 1:41.11 | 1997.8 | 7.91 | 0.76 | 85 |
|  | 1500m | 3:55.8 | 1912.6 | 5.70 | 3:26.00 | 1998.7 | 7.33 | 0.37 | 86 |
|  | 5000m | 14:36.6 | 1923.7 | 5.70 | 13:39.36 | 1998.6 | 6.66 | 0.96 | 86 |
|  | 10000m | 30:58.8 | 1911.11 | 5.38 | 26:26.70 | 1998.6 | 6.32 | 0.94 | 87 |
| Female | 800m | 2:16.6 | 1928.8 | 5.85 | 1:52.32 | 1983.7 | 7.06 | 1.21 | 55 |
|  | 1500m | 4:10.7 | 1967.9 | 5.98 | 3:50.46 | 1983.7 | 6.51 | 0.53 | 14 |
|  | 5000m | 8:27.2 | 1976.7 | 5.91 | 8.06.11 | 1993.7 | 6.16 | 0.25 | 17 |
|  | 10000m | 30:13.74 | 1986.7 | 5.51 | 29:31.78 | 1993.7 | 5.64 | 0.13 | 7 |

## 3. Pre-competition Training with Speed as the Core of the Training Method

For middle and long distance running project, the main factor that decides the result of special sports is speed, speed strength and speed endurance level. Speed endurance is the foundation, the speed is the core, the speed strength and strength endurance is the guarantee. Oxygen mixed training, the final CP - ATP and anaerobic metabolism of the main strength training, improving athletes in training, competition in various systems for energy, energy output power and the ability to mobilize in the fatigue state, which is the mainstream. From 1990 to 1998, men and women middle distance running project and Masson, 12 people broke 35 world record or the world's best results is a good evidence.

### 3.1 Speed Training

To cultivate the high speed of the middle distance runner, we must speed up and down the speed training, training should focus on speed and speed endurance, short, long, short, training method of choice should be close to the content of the training. But emphasizing the speed of training can not be separated from the characteristics of the arrangement, which should consider the improvement of the absolute speed and be combined with special features. The other is that the speed training must not only pay attention to the quality, but also pay attention to the high excitability, the body of the speed of the special and quality training, the effect is good. Meanwhile, the nervous system, muscle system exercise, the combination of ability and technology are also good. Through several years of training practice, this kind of training method and arrangement is suitable for middle and long distance running athletes and it is effective to improve the speed and endurance.

Although the foundation of the long distance running project is endurance, but with what speed to run is a key issue. In the past, in order to improve the endurance of athletes running, it generally used a large number of low

intensity of cross country running or running and so on. In essence, this kind of low speed runs to the athlete's heart and lung organ stimulation and it is not to be too big role, which can not reach the training effect and the purpose of aerobic metabolism. It just however a waste of time.Therefore, development of middle and long distance runners endurance run to have certain speed constraint, such as male players per kilometer run speed to 3 minutes and 40 seconds to 4 minutes between, run away from 8 to 16 km, the pulse control between 160 ~ 170 beats / min, from the point of physiology and biochemistry of the pulse, it just can increase the athlete's heart capacity which is stimulation of mitochondrial metabolism - the most suitable intensity range. Literature data show that when the human body is in the range of motion, the output is close to the maximum and the maximal oxygen uptake is the most important index to evaluate the endurance. So middle and long distance running athletes is in endurance running training to emphasize a certain speed (recovery run except, especially on 16 ~ 17 years after 2 ~ 4 years training of juvenile athletes is very necessary, including morning exercise training also cannot ignore the requirements.)

The technical features of excellent medium-long distance athletes are high frequency, fast rhythm, small gravity wave aberration, stable gravity, being relaxed and labor saving on the basis of keeping the best pace length. During the whole process of competition, high frequency and evident rhythm are mainly concluded as fast and rhythm. Being on this feature, during the teaching and training, we should get hang of the link technical teaching and training universally ASAP and pay attention to the standards, rhythm, reasoning of actions during technical training, stable and labor saving , the coordination between upper and lower limbs, sequence of using forces as well as structural direction, etc.. The running abilities of long time, high frequency and fast rhythm owned by medium-long distance athletes will be formed and reached only through steadfastly getting hang of the technique fast and rhythm ASAP in order to lay a good exclusive speed foundation to enter into the adulthood.

### 3.2 Speed and Strength Training

According to the development trend and running performance prediction of the existing medium-long distance running, all the excellent athletes in medium-long distance program should consider how to further improve the performance of running. Athletes will not improve their performance without successfully implementing the following effective speed and force training methods.

### 3.2.1 Sandy Running Training

Sandy running is of great benefit to medium-long distance athletes, many world-class medium-long distance athletes treat sandy running as a major content of the plan for speed and force training. The athletes with Ezequiel Cerutti as the coach once trained a lot in the dune zone of Australian harbor in bare foot for large amount of speed and force. Elliot, this training accounts for a great proportion of the former world gold winner and record keeper of 1500m running in 1960. Pitifully, the ignorance of sandy running in China becomes pretty serious. Most of the male medium-long distance athletes start to attempt to accept training in sandy land in Africa and in bare foot when promised by their physical functions which wins an excellent training performance. In the sandy training, athletes suffer exhaustion load on cardiovascular system and muscle system with a slow speed, which cannot be achieved by other trainings. Therefore, athletes can achieve evident performance only through few exercises. Athletes should treat sandy training seriously in multiple manners with few possible wounds. When training on highway, the medium-long athletes are always shocked when feet touch the ground, especially up the slope. Compared by this, running-jumping training in sandy lands will keep them safe. Conversely, sandy training can make them healthier and can help athletes get hang of a running technique with better biochemical effect in running. Additionally, running training in sandy land, grassland and soft land can grant athletes a better speed and force. After the accomplishment of running training, not too many speed and force trainings are needed to maintain the balanced development of sorts of muscle force. When promised by conditions, it's important for medium-long distance athletes to do some force exercises on sandy land, grassland or soft ground in bare foot after training and competition to achieve a better speed and force training effect.

### 3.2.2 Running in Water

Auxiliary training for running in swimming pool is much better than doing such auxiliary training on other instruments or places, as running in water can accelerate the recovery of athletes' organisms and the development of force and is helpful to maintain the balance between various force trainings. Speed, speed endurance and speed force are three abilities that should be developed in a balanced way. If athletes only pay attention to the development of speed and endurance in different phases of preparation period, they may get hurt due to synchronous development of speed force. Hard muscle (especially in the early days after running) with pains may be noticed in primary muscle diagnosis which will not be easily relaxed. Moreover, muscle blood flow disturbance and muscle anoxia may appear which may further lead to the losing of flexibility of muscles,

and the athletes may get hurt when the flexibility of muscle is lost too much which may cause that the athletes can't accept running training in the whole training season, even the end of the sports career. That's why some intellectual coaches and athletes add some speed force training after training of speed and speed endurance and fierce competition. Additionally, athletes should better do some running exercise in water in every two training courses. If the athletes have to stop training for a long time due to hurts, the best way to keep a good aerobic sporting through accomplishing the running exercises regulated in running training course in the running in water course in swimming pool. The cardiovascular functions and speed force level can be improved through running exercises in water and the athletes are definitely in a perfect condition for training or competition if they don't get hurt for a long time.

### 3.2.3 Flexibility

Flexibility is of great significance to the performance of speed, speed endurance and speed force for medium-long distance athletes. Poor flexibility can limit movement range which may lead to falling moving speed and the retreatment of coordination between nerves and muscles. Many athletes worry that flexibility training may influence their speed force, yet correct flexibility training will not influence the speed force, instead it improve the speed force of athletes. The increasing speed force can enhance muscle force endurance and speed endurance to a certain extent and athletes may lose the competition when the flexibility or muscle force of specific location is not evenly developed. According to some studies, increasing flexibility on joint location can improve its surrounding muscle flexibility and force.

High muscle flexibility may lead to the increase of force which may further enlarge force storage when muscle extension and contraction abilities can increase the muscle speed force. Recently, University of Western Australia made an test to 5000m athletes on the purpose of studying whether higher muscle flexibility force might be conducive to the sporting performance. 8-week long static extension exercise for the experimental group, while no flexibility exercise was requested to the control group and both groups continued to finish their normal training plan. The experimental group do some flexibility exercise of 10~15 minutes after normal training course which help them win an average increase of 31.1% in flexibility and an increase of 5.4% performance in fast barbell squat as well as an average increase of 54''43 in exclusive sporting performance. Compared, the flexibility, fast barbell squat and exclusive sporting abilities are not evidently improved in the experimental group. From the result of study, we can reach a conclusion that flexibility exercise will not only increase the flexibility surrounding joints and increase muscle force. Moreover, with the improvement of muscle flexibility and tension, muscle can better use the energy of speed force.

This discovery is of special significance to muscle pre-extension before activity and to the items demand increase of muscle force with no change to weight. Medium-long distance athletes don't need rough muscle, instead, they need muscle speed force. To be visualized, medium-long distance athletes need muscle force like that of deer, instead of that of a cow. As the muscle fiber of deer is long with a small intersection, a strong contractibility, a good flexibility, as strong speed force; conversely, the muscle fiber of a cow is short with a large intersection, a poor speed force and a strong absolute force. Increase of muscle speed force is the necessary quality demand of medium-long distance athletes. Through flexibility exercise, medium-long distance athletes can get necessary dynamic extension, instead of static extension like lying on the floor with hands and feet stretched. The more effective the technical action of an athlete is, the better the flexibility of him or her is along with a smaller possibility of getting hurt. Therefore, most of athletes use good running technology to implement dynamic flexion and extension exercise for a higher speed force.

### 3.2.4 Circulative Speed Force Training and Speed Force Training with Equal Super Length

The advantage of these two training methods is variable. The diversity of training can help relieve the physical and psychological consumption of athletes after implementation of repetitively same exercise.

Circulative speed force training is a traditional method to complement the training preparation period of medium-long distance athletes and can help combine the new various training stimulus adopted by the athletes. The combination of stimulus can promote the overall development of the whole body forces which is also usually encountered in medium-long distance running exercise. The advantage of circulative speed force training is that each part of the body of athletes is stimulated one by one until the whole body is stimulated, meanwhile and a higher heart rate within the whole training period can be maintained.

As the fatigue of a specific location on the body of an athlete is caused by internal lactic acid accumulation, the alternative use of body parts (upper limb, lower limb, action muscle group, resistant muscle group) can help relieve the appearance of the force exhaustion of the whole body. In this way, the training course can continue for a longer time and aerobic training performance can be achieved to the largest extent when implementing

force training. The major methods of circulative speed force training are in the following order: push-up →sit-up →vertical legs split →parallel bars arms flexion and extension →knee raise →pull-up →sit straight with raising legs →legs open →legs closed →rope climbing →right angle sitting bracing →arm step, etc..

Speed force training with equal super length can be applied to the ordinary physical training in preparation period for medium-long athletes. Speed force training with equal super length is of greatly effective to the medium-long distance athletes. In order to achieve a proper development of muscle force, various exercises must be taken strictly. The speed force training with equal super length is in the following order: high leg lift →kick hip run →long striding →single foot jump →single or double foot tip jump →knee to breast jump with double feet →jump and rotate 180º →frog jump →double feet rope skipping, etc..

The above 2 speed force training methods are mainly concentrated on muscle groups in the upper body and lower limbs. If designated stable action speeds are used in all exercises, a necessary heart rate demanded for maintaining cardiovascular training and force stimulus when the athletes run fast towards the next location for exercise as designed. Coach or team members should better watch them as the trainees may have the mindset of being anxious to finish the exercise when being close to their final fatigue. The two speed force trainings require strictly about the physicality of athletes and the trainees can achieve a good speed force training effect after the training of the whole structure for 20~25 minutes.

*3.3 Speed Endurance*

Speed endurance is the core of medium-long distance running while speed is the basis and guarantee of speed endurance. Only when the basis of the item can be seized, a high-efficient effect can be achieved. We can see through analysis of the whole process of modern medium-long distance running competition, the whole process is undergoing with constantly changing speed and athletes should be able to constantly speed up during running, while anaerobic metabolism must be used to provide energy source for running. Due to changing speeds, the anaerobic process during medium-long distance competition doesn't only appear in the final dashing phase, instead the whole course. Due to an increasing proportion of anaerobic metabolism, to develop the energy supply through glycolysis, the movement load should reach at a certain extent which is also the best method to increase the acid-resistant and enduring ability of the athletes. Therefore, speed training should penetrate into the whole process of training.

Speed and endurance is contradictory, united and restricted on each other, once arrangements are not properly made, conflicts will definitely appear. According to the movement biochemical theory, the source of speed originates form the fast decomposition of ATP and the resynthesis of CP, the anaerobic metabolism of phosphagen. The energy of endurance comes from anaerobic glycolysis. During training, over emphasized endurance training will lead to the over development of the ability of energy supply through glycolysis which will further restrict the increase of speed quality. Speed and endurance is determined by individual difference.

In the past, people generally considered that medium-long distance running is an endurance item, therefore, the training on lactic acid energy is not enough and the performance of medium-long distance running is staying unchanged. Since late 1990s, speed and endurance were put on the same position, and medium-long distance elite athletes were considered not only to be with good endurance but also with accelerated speed. Factors determining the performance of medium-long distance running is the speed and speed endurance levels when speed endurance is the basis ,speed is the core, force is the guarantee. Focus on mixed aerobic and anaerobic training after aerobic metabolism training. Finally, take large intensity and high speed training predominated by anaerobic glycolysis metabolism to develop fast speed ability and speed endurance ability.

According to biochemical study, the glycolysis energy metabolism of ATP-CP accounts for 20~30% or so in the modern medium-long distance running which indicates speed's position in medium-long distance running. When developing speed, pay attention to the development of speed and endurance. Both factors should be implemented at the same time. The corresponding biochemical factors can always be changed through common training methods on endurance and speed development. Aerobic load training like field run and some force training is usually taken for the development of endurance, when average heart rate is 40~150 times/minute, PH is 7.35, blood lactic acid is 3mmol /L. Mixed aerobic and anaerobic load training like repetitive section run, varied pace running and 5000m rhythm running is always taken for the development of speed and endurance, when average heart rate is 150~180 times/minute, PH drops from 7.36 to 7.20 and the blood lactic acid is 3~15mmol/L.

Wang Junxia basically enhances her energy supply ability from various systems in training and competition through the above three training methods in an all round manner and enhances her speed ability under energy output and fatigue. Therefore, these methods are always depended on to run in a high speed in training and competition along with energy utilization and saving high jump tonic technology. Because of this, she broke the

world record in 10000m female competition in the seventh session of nationwide sporting games with 8'17''34 in the final 3000m. This truth eloquently indicates the great potential of medium-long distance athletes in speed training through endurance training like anaerobic load.

**4. Speed Force Training Should Be Based on the Principle of Balanced Development**

During the training of medium-long distance running, athletes should pay attention to the balanced development of various physical qualities. We can treat endurance, speed and force as three angles being balanced with the central point of the triangle that when one angle is lifted up, the other angles will be in a lower position. If two angles are lifted up at the same time, the rest angle will also be in a lower position. Generally speaking, it's difficult to lift up three angles, but is necessary. Through maintaining the balanced development of endurance, speed and force, athletes can enhance the overall level of physical qualities in a faster way.

Although this theory is purely theoretical, it's still conducive for people to understand the three components demanded by medium-long distance athletes. Through combination of speed force training, force endurance training, speed training, endurance training, speed endurance training with the development of agility, flexibility and extensibility, muscle wastage and narrowing movement scale can be prevented. After training courses on speed force, force endurance, speed and speed endurance, relaxation activities should be taken, including some exercises on extensibility and flexibility in the form of entertainment activity in order to sustain the high-level coordination between nerve muscles. Otherwise, it may appear that technical level drops while force increases which usually occur on fast growing youth athletes.

**5. Conclusions**

The target of medium-long distance training is to run faster within a specific distance, namely to exert the maximum absolute speed within a certain limit. Therefore, all the training methods and manners should surround this target. Each world class excellent athletes put speed at the first position. Firstly, the performance of medium-long distance athletes depends on the born quality and good physical shape and cardio-pulmonary function of the athletes. Secondly, the specific training is the necessary method to enhance the sporting performance. Through analysis of some new changes in medium-long distance training in the world, it is found that speed quality is the major factor to enhance the performance of medium-long running. Add in a large sum of items with large intensity and short distance has become a new trend for the development of the world medium-long distance running and a major guarantee to constantly enhance the performance of medium-long distance running.

Through the method about speed training in this thesis, the performance of medium-long distance athletes can be improved, especially the performance of those athletes who once ignore speed ability training.

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# Public Spending and Economic Growth in the Rentier State: The Case of Kuwait

Ebrahim Merza[1] & Noorah Alhasan[1]

[1] Economics Department, Kuwait University, Kuwait

Correspondence: Ebrahim Merza, Economics Department, Kuwait University, Kuwait. E-mail: emerza2@hotmail.com

**Abstract**

This paper examines the validity of Wagner's hypothesis in Kuwait looking specifically at government expenditures in health, education and infrastructure. Using time series analysis, the paper has found a long-run equilibrium relationship between GDP growth and the specified government expenditures. It, however, only found one causal relationship between development expenditures and GDP growth. As such, the paper proposes an expansion in government spending on development projects and reevaluates budget allocation in health and education.

**Keywords:** public spending, economic growth, Rentier state, Kuwait

## 1. Introduction

Governments play an essential role in the process of economic development; the way they allocate their resources and govern their institutions has an effect on the economy that would even extend to future generations. This leads to the realization that governments should manage their budget with extreme scrutiny in order to insure that future generations will not be harmed by mismanagement.

In 1893, German economist Adolph Wagner proposed that a positive relationship exists between economic development and the size of government spending. This proposition has gained so much research it has later been seen as a hypothesis and even more so as a law. Many empirical time series research has been conducted testing the hypothesis and in general it has gained strong support with very few exceptions. However, the past two decades have seen research that revisits Wagner's hypothesis with empirical results that do not support the 'law.'

### 1.1 Purpose of the Study

The purpose of this paper is to present the theoretical argument of Wagner's hypothesis, review the existing literature on the hypothesis and growth models, and examine Wagner's hypothesis to the Kuwaiti economy looking specifically at which socioeconomic aspect of government spending has most effect on economic growth. The aspects examined in this paper will be public spending on education, health and infrastructure.

### 1.2 Paper Structure

The structure of the paper will be divided into several integral parts. Section 2 of the paper will handle the literature review, which includes classical endogenous growth model, the anatomy of a rentier state and previous related research on Wagner's hypothesis. Section 3 will handle data and methodology, which includes the nature of data, model design and empirical procedure. Section 4 will present the results and its statistical analysis while section 5 will handle the discussions and policy. Finally, section 6 will conclude the presented paper.

## 2. Literature Review and Theoretical Perspective

A primary objective of every country is to increase the speed of economic growth and economic development by improving the competitiveness of national firms in the global markets (Riasi, 2015; Riasi & Pourmiri, 2015).

Economic growth has been a subject that many economists from different schools have discussed over time. It is a subject that concerns every nation since they all strive to increase the people's standard of living by reallocating resources as efficiently as possible. This section will look at growth models, the rentier state, and Wagner's hypothesis.

*2.1 Endogenous Growth Model*

The neoclassical theory of economic growth proposes that real GDP growth is divided into two categories. The first being growth of factor inputs, i.e. labor and capital. The second category is the growth of output relative to growth of inputs, i.e. economies of scale. This theory mostly concentrates on the effect of capital, that's being realized through labor, on economic growth. At first, it implies that national savings, facilitated through capital, increases economic growth. However, after Solow's economic growth model, it has been shown that an increase in national savings does not permanently increase the growth rate, and that other factors play a more effective role in economic growth (Gordon, 2014).

Nonetheless, capital is still a major player in economic development. Specifically, infrastructure, technological advances and human capital, are the most important components of capital that affect economic growth.

Extensive research has been done to test the effects of public spending on economic growth. Starting with the augmented Solow growth model, it incorporates human capital accumulation in addition to physical capital formation as a determinant to the steady-state level of income per capita (Mankiw, Romer, & Weil, 1992). It further states that differences in education and population growth would explain differences in income per capita between countries.

According to Barro (1991) however, the growth rate is significantly positively related to the starting level of human capital. He further states that public expenditures on education are considered as investment than a form of consumption and that they are more likely to affect private-sector productivity, which will also matter to private investment.

Linking health expenditures to labor productivity, it has also been shown that improvements in health increase output through the accumulation of human capital (Bloom, Canning, & Sevilla, 2004). Specifically, public spending on health has a positive and statistically significant effect on economic growth, in which a one-year improvement in a population's life expectancy has a contributed to an increase of four percent in output (Bloom et al., 2004).

As for infrastructure, neoclassical models and growth models have emphasized the importance of capital on economic growth. According to Munnell (1992), public infrastructure spending has a positively significant effect on economic growth as well as providing immediate economic stimulus.

Nonetheless, one does not simply talk about public spending without first distinguishing consumptive from productive expenditures. Productive public spending is designed to exogenously promote production, whereas consumptive public spending is formulated to increase households' utility (Chen, 2006). Therefore, an increase in the consumptive public expenditure lowers economic growth because it has no direct effect on private-sector productivity (Barro, 1990).

According to Chen (2006), East Asian countries have had higher percentage of productive public spending and achieve higher economic growth rates than other countries. Furthermore, a high share of productive public spending may not be the main underlying reason for explaining economic growth differences amongst countries but can be seen as a result of the governments' optimal choices (Chen, 2006).

Nonetheless, public expenditures that normally carry a productive nature can turn into a consumptive one if it reaches an excessive amount (Devarajan, Swaroop, & Zou, 1996). Productive public expenditures, often thought as the leading force to development, might have reached excessive levels in developing countries, which turned them unproductive at the margin while consumptive expenditures are actually productive at the margin (Devarajan et al., 1996).

*2.2 The Rentier State*

In relation to economic growth, the rentier economy proposes a special case with regards to public spending and specifically for the oil-state economies. According to Beblawi and Luciani (1987), the rentier economy is, "either an economy substantially supported by expenditure from the state, while the state itself is supported from the rent accruing from abroad; or more generally an economy in which rent plays a major role" (p. 11). Given the structure of the oil revenues, the massive levels of oil rents increased the involvement of the government in the economy and enabled it to expand its public sector. This in turn made the government the prime agent of the economy while the role of the private sector shrunk relatively (Abdulla, 1999).

In the rentier state, the government has total control over the revenues received from the exports of the rent-producing sector, in which it then establishes the links between the rent-producing sector and the rest of the economy through the expenditure side of the public budget (Abdulla, 1999). This leads to the conclusion that the

rest of the economy is involved only in the utilization and distribution of the wealth generated from the rents.

Nonetheless, the government uses oil revenues to meet current expenditures as well as to invest some of these revenues in income-generating projects. In turn, public spending on projects, wages and transfer payments will have a multiplicative effect on the economy that is similar to the Keynesian multiplier (Abdulla, 1999). Stauffer (1987, p. 33) uses the term "rentier multiplier" in order to indicate how the injection of real resources coming from export oil rents largely increases effective demand and as such the increase in income is greater than the injection of the oil revenue. The only difference from the classical Keynesian multiplier is that it is caused by real resource injections rather than budget deficits (Stauffer, 1987). This completely changes the way public budget is managed in a rentier state and as such behaves differently than the classical open economy. Specifically in the rentier economy, the rentier multiplier loses some of its effect due to leakages caused mainly by high reliance on imports and expatriate workers (Abdulla, 1999).

In relation to this paper, the effect of government expenditures on economic growth can be realized through effective spending on the various budget components, i.e. education, health and infrastructure. This paper will specifically look at Kuwait's past government budgets and how different components' expenditures affect the GDP. The parts that will be investigated are of a civil nature. They will be education, health, transportation, communication and energy.

Özyavuz and Schmid (2015) study the relationship between economic growth and oil revenue in the 6 gulf countries. The authors were arguing that whether the GCC members have undertaken reforms and changes for depending less on oil-wealth and for reaching a more diversified economy. Despite their efforts and achievements – both endogenous as exogenous factors - are still inhibiting the development processes in each country.

*2.3 Wagner's Hypothesis*

As stated before, Wagner's hypothesis states that there exists a relationship between economic growth and size of government. Many empirical studies have supported this hypothesis to be promoted to a 'law,' however in the recent decades, changes in economic structures have shown that the law does not hold in some cases and/or certain periods.

Durevall and Henrikson (2011) conducted a historical reassessment of Wagner's hypothesis on data spanning from early 19th century until present day (1800-2006) in Sweden and the UK. Their main results were that Wagner's hypothesis does not hold in the long runfor Sweden, a welfare state, and the UK. However, the hypothesis holds for certain time periods, specifically when the economy goes through the process of modernization, like 40-50 years before WWII and 30-40 years after WWII.

In developing, oil-exporting Nigeria, Babatunde (2011) tested the validity of Wagner's hypothesis using annual data of government expenditure and real GDP from 1970-2006. The author's main results were that there exists no long-run relationship between government expenditure and output, thus refuting Wagner's hypothesis for the case of modern Nigeria.

Whereas in Turkey, Tasseven (2011) has also tested for the validity of Wagner's hypothesis using annual data of public expenditures and real GDP, spanning approximately the same time period as Nigeria (1960-2006) and the author's result show that there exists a long-run relationship between government expenditure and output. This can possibly go back to Durevall and Henrikson (2011) observation in which Wagner's hypothesis would only hold during the economy's period of modernization, where it is evident that Turkey has gone through a substantial degree of modernization relative to Nigeria. However, in Pakistan the support for the Wagner's Hypothesis was found to be weak (Muhammad et al., 2015).

Specifically in Kuwait, Burney (2002) examined Wagner's hypothesis using Kuwait as a model where he conducted empirical analysis on the relationship between public expenditures and national income as well as several socioeconomic variables from 1969 to 1994. The results that he found show that there is little evidence to support the validity of Wagner's hypothesis. However, a long-run equilibrium relationship between national income and public expenditures only existed when he incorporated economy openness in the model, suggesting a restriction to Wagner's hypothesis in the case of Kuwait.

Whereas Al-Faris (2002) also conducted research on the validity of Wagner's hypothesis, testing the relationship between public expenditures, both current and capital expenditures, and economic growth, where he used the Gulf Cooperation Council (GCC) countries as a model from 1970-1997. However, his results show that there exists a long-run relationship between national income and public spending, therefore lending strong support to the validity of Wagner's hypothesis.

### 3. Data and Methodology

This section will present the empirical data used in this paper to conduct an econometric analysis on the question of whether there exists a long-run equilibrium relationship between government spending on education, health and infrastructure and GDP. Furthermore, this section will discuss the model design used to address the presented question and delves into the methodology used to approach the issue.

*3.1 Data Description*

The data used in this paper are the annual public expenditures and the nominal GDP of Kuwait in which they are all attained from the Quarterly Bulletin of the Central Bank of Kuwait (Central Bank of Kuwait, 2013). The annual data used is from 1979 to 2012 and the measurement is in millions of Kuwaiti Dinars (KD). The data is then converted to its natural logarithms for the econometric analysis.

*3.2 Model Design*

According to Wagner's law, as income increases, public spending increases as well. Therefore we can continue to postulate that,

$$GDP = f(CEE, CHE, CIE, DE) \tag{1}$$

Where,

GDP = Nominal GDP; CEE = Nominal Current Education Expenditures; CHE = Nominal Current Health Expenditures; CIE = Nominal Current Infrastructure Expenditures; DE = Nominal Development Expenditures

The series will then be converted into its natural logarithms in order to observe their changes. Furthermore, the natural logs of these macroeconomic variables will capture the rate of growth of them over time. It will follow in the following format,

$$Ln\ GDP_t = \beta_0 + \beta_1\ Ln\ CEE_t + \beta_2\ Ln\ CHE_t + \beta_3\ Ln\ CIE_t + \beta_4\ Ln\ DE_t + \varepsilon_t \tag{2}$$

Nominal GDP is used as the dependent variable to measure the effect of the ministries' annual expenditures at current prices.

Nominal Current Education Expenditure (CEE) is the amount spent by the Ministry of Education and the Ministry of Higher Education on public schools and public educational programs as well as scholarships for higher education that is provided for Kuwaiti citizens. Since education increases human capital, Nominal Current Education Expenditure should therefore be positively related to Nominal GDP.

Nominal Current Health Expenditure (CHE) is the amount spent by the Ministry of Health on hospitals, clinics and health services that are provided to the public. Since health services produce positive externalities, Nominal Current Health Expenditures should therefore be positively related to Nominal GDP.

Nominal Current Infrastructure Expenditure (CIE) is the amount spent by the government on roads, buildings, utilities such as water and electricity and communication services such as telephone lines and Internet services provided to the public. These current expenditures on infrastructure are taken from Ministry of Electricity and Water, Ministry of Communications and Ministry of Public Works. Since these services produce positive externalities, Nominal Current Infrastructure Expenditure should therefore be positively related to Nominal GDP.

Nominal Development Expenditures (DE) is the amount spent by the government on development projects. They are classified in terms of development spending at the Ministry of Electricity and Water, Ministry of Public Works and the Ministry of Communications. Since development projects benefit the entire economy, it is therefore assumed that development expenditures are positively related to Nominal GDP.

*3.3 Methodology*

When conducting time series analysis, several procedures need to be implemented on the data in order to strengthen the analysis of the output. This section will first test the series for the presence of a unit and determine their order of integration, then construct a Vector Autoregression (VAR) model in order to determine the optimum lag to run the appropriate cointegration test, where finally it will look at the Granger causality amongst the variable in order to finally assess the relationship.

3.3.1 Unit Root Test

At first, data needs to be tested for stationarity since nonstationary data produce unreliable estimates in an ordinary least squares (OLS) regression due to the extreme likelihood of positive autocollinearity. The paper hypothesizes that the data chosen for the model exhibits nonstationarity and would test this hypothesis by conducting several unit root tests. Due to the popularity of unit root tests used on time series data, the paper has

chosen two tests in order to strengthen the analysis. The first is the Augmented Dickey-Fuller (ADF) test and the second is the Zivot-Andrews (ZA) unit root test.

### 3.3.2 Augmented Dickey Fuller Test

In recent literature, most times series data need to be differenced (d) times in order to become stationary. Therefore, a times series like Ln (GDP), for example, is said to be integrated in the order of (d), which is represented as Ln (GDP)~I (d).

The ADF test is the most widely used test in times series empirical studies to test for data stationarity. The formal test is utilized by regressing the following equation:

$$\Delta (\text{Ln GDP})_t = \alpha_0 + \alpha_1 t + \alpha_2 (\text{Ln GDP})_{t-1} + \sum_{i=1}^{n} \alpha_i \Delta (\text{Ln GDP})_{t-i+1} + \varepsilon_t \qquad (3)$$

where $(\text{Ln GDP})_t$ is the economic variable being tested, and $\varepsilon_t$ is the error term normally distributed, i.e. $\varepsilon_t \sim N(0,1)$.

$(\text{Ln GDP})_t$ is differenced and regressed against a constant $(\alpha_0)$, a time trend (t), and the first lag of $(\text{Ln GDP})_t$. More lags can be added to the equation in order to insure no serial correlation is present in the error term and is automatically chosen by utilizing the Schwarz Information Criterion (SIC) test to confirm no autocorrelation. The E-views program chooses a maximum lag length of 8, where it chooses the lag length with the smallest SIC value (IHS Global Inc., 2013, p. 482).

The null hypothesis of the test follows that $H_0: \alpha_2 = 0$, which means that a unit root is present, against the alternative $H_1: \alpha_2 \neq 0$, where the test is based on the t-statistics of the coefficient of $(\text{Ln GDP})_t$. The value of the t-statistic is then tested against the critical values computed by MacKinnon (1996), where if the calculated value is greater than the critical value, then the null hypothesis of a unit root present is rejected.

Burney (2002) used the ADF method to test the order of integration of public expenditures in Kuwait. The results were all types of government expenditures that were specified in his research were integrated in the first order, i.e. I (1). In addition, Al-Faris (2002) also tested for stationarity using the ADF test on Kuwaiti public expenditures in his paper, and all the variables have failed to reject the null hypothesis of a unit root present in their level. Furthermore, Fasano and Wang (2002), tested for stationarity of public expenditures in Kuwait using the ADF test and they have found that expenditures were integrated in the first order.

Nonetheless, the main debate around unit root tests is whether the nature of shocks affected by the time series are transitory or permanent. The standard ADF test does not take into account any structural breaks affecting the time series, thus increasing the likelihood of a type II error. Perron (1989) debates that ADF tests are more inclined towards the non-rejection of the null hypothesis of a unit root in the occurrence of a structural break, in which he specifically states with regards to US macroeconomic variables, "Most macroeconomic time series are not characterized by the presence of a unit root. Fluctuations are indeed stationary around a deterministic trend function. The only 'shocks', which have had persistent effects, are the 1929 crash and the 1973 oil price shock" (1989, p. 1361).

None of the previously mentioned research has tested for a possibility of a structural break in their time series thus possibly affecting the reliability of the ADF test. In order to decrease the possibility of a type II error, this paper will conduct the ZA unit root test in the following section to determine whether the series is difference stationary, i.e. nonstationary with a drift, or trend stationary with a structural break.

### 3.3.3 Zivot-Andrews Unit Root Test

To account for the possibility of a structural break, the Zivot-Andrews (ZA) unit root test was developed by Zivot and Andrews (1992) and incorporates a structural break in the time series when testing for a possible unit root in the series. Furthermore, it allows the test to determine the breakpoint, i.e. the structural break date 'endogenously' from the data by using a different dummy variable for each possible break date. The selection occurs where the t-statistic from the ADF test of unit root is at a minimum. Therefore, a break date will be chosen where the evidence is least favorable for the unit root null (Glynn, Perera, & Verma, 2007).

However, the ZA unit root test was criticized for the treatment of the structural break periods, since there is a possibility that the structural break does not have a historical significance and as such a thorough economic analysis could not be carried out using this test. Packey and Nasair (2009) explored the Kuwaiti consumption function in the presence of economic structural breaks where they used the ZA unit root test to test for nonstationarity in the real GDP and consumption. Regarding the results, both real GDP and its natural logarithm have failed to reject the test's null hypothesis of a unit root with a structural break in the constant, the trend and both. Therefore, the paper hypothesizes that the GDP variable will also fail to reject the null hypothesis of a unit

root with a structural break in both the trend and the constant.

### 3.3.4 Cointegration Test

When a linear combination of two or more nonstationary series, integrated in the same order, exhibit stationarity, then these two or more series are considered cointegrated.

Cointegration is useful because should it exist between the chosen nonstationary time series then it indicates that they're not spurious and that their linear combination exhibits a long-run equilibrium relationship. It is worth noting that cointegration testing is more favorable for nonstationary data than to difference the time series into stationarity. That is because cointegration testing is capable of picking up the long-run relationship among the time series whereas differencing them will lose all that long-run information in the process.

The main tests for cointegration are the Engle-Granger two-step method, where it tests for cointegration between two series, and the Johansen cointegration test, where it allows for cointegration testing for two series and more. Furthermore it has been shown by Gonzalo (1994) that the Johansen approach has more result power than its counter, the Engle-Granger two-step method.

Given that this paper aims to explore any cointegrating relationship between more than two series, it will use the Johansen cointegration test as the method of choice. The Johansen Cointegration Test, developed by Johansen and Juselius (1990), is the most widely used method to estimate the long-run equilibrium relationship of the nonstationary time series. The method adopts a maximum likelihood procedure in order to detect any cointegrating relationships between nonstationary series. The number of cointegrating relationships is determined by two test statistics: The Trace test and the Maximal eigenvalue test. The null hypothesis of the Trace test is that the number of cointegrating relationships is less than or equal to 'r', whereas the Maximal eigenvalue test's null hypothesis is that there exists 'r' of cointegrating relationships against the alternative of 'r+1.'

In order to run the Johansen test, a lag length must be determined by first running a Vector Autoregressive (VAR) model on all the nonstationary series at level, in which the optimal lag length is chosen according to the minimized value of various information criteria, such as the Likelihood Ratio (LR), the Final Prediction Error (FPE), the Akaike Information Criterion (AIC), the Schwarz Information Criterion (SIC) and finally the Hannan-Quinn Information Criterion (HQ). So for example, if the optimal lag length of the VAR model chosen by the minimized value of the criterion is 3, then the lag length chosen for the Johansen method is 2, since the Johansen test is run on the first difference of the time series.

Both Burney (2002) and Al-Faris (2002) used the Johansen cointegration test to examine the existence of a long-run equilibrium relationship between national income and public expenditure in Kuwait. Al-Faris (2002) found that there exists a long-run equilibrium relationship between national income and public expenditures whereas Burney (2002) only found a long-run equilibrium relationship between the variables when economy openness is taken into account.

Fasano and Wang (2002) also used the Johansen cointegration test to examine whether a long-run equilibrium relationship between government revenue and expenditure in the GCC countries. Their findings have shown that there exists a long-run equilibrium relationship between government revenue and expenditure in the GCC countries.

### 3.3.5 Granger Causality

The most widely used test in economics for identifying causality amongst time series data is the Granger Causality. Developed by Clive Granger (1969, 1986), the test is considered an inferential approach, in which it is data based regardless of background economic theory. Furthermore, it was developed for time series analysis, which makes it convenient for the paper's purpose.

The test follows that variable X, for example, Granger causes Y if X and Y's past history combined can help to predict the future value of Y beyond what could have been done with the past value of Y only. Mathematically it follows,

$$Y_t = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i} Y_{t-1} + \sum_{i=1}^{n} \alpha_{2j} X_{t-j} + \mu_t \tag{4}$$

$$X_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} X_{t-1} + \sum_{i=1}^{n} \beta_{2j} Y_{t-j} + \nu_t \tag{5}$$

Where $\mu$ and $\nu$ are serially uncorrelated error terms with zero mean, $\alpha_0$ and $\beta_0$ are constants and $\alpha_{1i}$, $\alpha_{2j}$, $\beta_{1i}$ and $\beta_{2j}$ are coefficients. The joint null hypothesis states that, for example, $\alpha_{11} = \alpha_{12} = \alpha_{13} = \ldots = \alpha_{1n} = 0$ where the reported statistic is the F-statistic. A rejection of the null hypothesis, in the case of the example used, would mean that Y Granger causes X.

It is worth noting that the Granger causality test can only be conducted on stationary time series. Therefore, the test would lose information on its long-run effect due to the nonstationarity of the time series at level.

## 4. Empirical Results

This section will present all the results obtained from the econometric procedures proposed in the previous section as well as a brief analysis on the impact of these results on the paper's main question. E-views (version 8) software is the choice of econometric program used for the analysis of the time series data.

*4.1 Unit Root Tests*

Table 1. Unit root test results (with intercept and trend)

| Variable | ADF I (0) | ADF I (1) | ZA[a] I (0) |
|---|---|---|---|
| Ln GDP | -1.73 [0] | -5.83*** [1] | -4.34 [0] (1990) |
| Ln CEE | -0.57 [0] | -6.55*** [0] | -3.67 [1] (2000) |
| Ln CHE | -1.90 [0] | -7.93*** [0] | -5.32** [1] (2000) |
| Ln CIE | -0.82 [1] | -7.63*** [0] | -3.85 [1] (1995) |
| Ln DE | -1.60 [0] | -5.42*** [0] | -3.43 [0] (1989) |

(1) The results are based on the assumption of a constant and a linear trend present in the regressions.

(2) The lag length of the unit root test is specified in brackets [].

(3) The lag length of the unit root test is based on the Schwarz Information Criterion (SIC) for the appropriate length chosen automatically up to 8 lags.

(4) The null hypothesis states that a unit root is present in the series.

*, **, and *** corresponds to the rejection of the null hypothesis of a unit root present at 10%, 5%, and 1% significance level respectively.

aThe ZA unit root method tests for a unit root with a structural break in both the trend and the intercept. Year in parentheses () correspond to the chosen breakpoint date that has been estimated endogenously.

Testing for unit roots has given a clearer image of the data presented. Using the ADF method, all variables have rejected the null hypothesis of a unit root after the first difference, meaning they are all integrated in the first order, i.e. I (1).

Furthermore, the outcome of the ZA unit root test shows that the all the variables with the exception of (Ln CHE) have failed to reject the null hypothesis of a unit root with a structural break in the intercept and trend. As such, the test failed to determine the series as trend stationary with a possible structural break in the intercept and the trend. As for (Ln CHE), the ZA unit root test outcome rejects the null hypothesis of a unit root with a structural break in the trend intercept at the 5% significance level. However, the calculated breakpoint date presents no historical significance with regards to Kuwait's health expenditures, and as such, the paper cannot use this test as a basis for further investigation.

*4.2 Optimal Lag Length*

Table 2. Optimal lag length order chosen by criterion

| Lag | LR | FPE | AIC | SIC | HQ |
|---|---|---|---|---|---|
| 0 | | 9.31e-7 | 0.302 | 0.536 | 0.377 |
| 1 | 181.894 | 2.59e-9 | -5.610 | -4.209* | -5.162 |
| 2 | 43.160 | 1.65e-9 | -6.215 | -3.646 | -5.393 |
| 3 | 16.042 | 4.28e-9 | -5.694 | -1.958 | -4.499 |
| 4 | 39.311* | 8.28e-10* | -8.395* | -3.491 | -6.827* |

* indicates the optimal lag order chosen by the criterion

The results show that the LR, FPE, AIC, and HQ values were at minimum with a lag order of 4, whereas the SIC value was at a minimum with a lag order of 1. Therefore, given that not all the types of criterion have chosen

unanimously on the optimal lag order for the Johansen test, the paper will run the test twice: once with a lag order of 3 and another with no lagged order.

*4.3 Johansen Cointegration Test*

Table 3. Johansen Cointegration test results (no lags in first differences, linear deterministic trend)

| Trace Test: | | | |
|---|---|---|---|
| Null | Alternative | Trace Statistic | 5% Critical Value |
| r=0* | r≥1 | 81.275 | 69.819 |
| r≤1 | r=2 | 36.480 | 47.856 |
| Maximum Eigenvalue Test: | | | |
| Null | Alternative | Max-Eigen Statistic | Critical Value |
| r=0* | r=1 | 44.795 | 33.877 |
| r=1 | r=2 | 17.812 | 27.584 |

* indicates the rejection of the null hypothesis of 'r' cointegrating relationships at the 1% significance level.

Table 4. Johansen Cointegration test results (3 lags in first differences, linear deterministic trend)

| Trace Test: | | | |
|---|---|---|---|
| Null | Alternative | Trace Statistic | 5% Critical Value |
| r=0* | r≥1 | 152.749 | 69.819 |
| r≤1* | r=2 | 87.983 | 47.856 |
| r≤2* | r=3 | 43.980 | 29.797 |
| r≤3 | r=4 | 7.750 | 15.495 |
| Maximum Eigenvalue Test: | | | |
| Null | Alternative | Max-Eigen Statistic | Critical Value |
| r=0* | r=1 | 64.766 | 33.877 |
| r=1* | r=2 | 44.002 | 27.584 |
| r=2* | r=3 | 36.230 | 21.132 |
| r=3 | r=4 | 7.561 | 14.265 |

* indicates the rejection of the null hypothesis of 'r' cointegrating relationships at the 1% significance level.

The Johansen test results show that without any lags in the first difference and with a linear deterministic trend, the null hypothesis failed to reject at most one cointegrating relationship using both the Trace test and the Maximum Eigenvalue test. However, running the test again with the same assumptions except for using 3 lags instead none, the null hypothesis failed to reject at most 3 cointegrating relationships using both tests.

This means that as a system, several linear combinations of the time series exhibit long-run equilibrium relationship, which can possibly lend support to Wagner's hypothesis but would require further testing to see the direction of causality.

*4.4 Granger Causality*

The Granger Causality test has failed to reject causality between Ln (GDP) and Ln (CEE), Ln (CHE) and Ln (CIE) bi-directionally in which it shows that changes in Ln (CEE), Ln (CHE) and Ln (CIE) are independent to changes in Ln (GDP) and vice versa.

The test, however, rejected the null hypothesis of no Granger Cause from Ln (DE) to Ln (GDP) at the 1% significance level but failed to reject the null hypothesis of no Granger Cause from Ln (GDP) to Ln (DE) at the 5% significance level. This might indicate that changes in Ln (DE) levels can predict the changes in Ln (GDP) levels but not vice versa.

Table 5. Granger causality results (the null hypothesis and probability of non-rejection)

| Null Hypothesis ($H_0$) | Probability of not rejecting $H_0$ | The results |
|---|---|---|
| Ln (CEE) does not Granger Cause Ln (GDP) | 17% | Do not reject $H_0$ |
| Ln (GDP) does not Granger Cause Ln (CEE) | 86% | Do not reject $H_0$ |
| Ln (CHE) does not Granger Cause Ln (GDP) | 29% | Do not reject $H_0$ |
| Ln (GDP) does not Granger Cause Ln (CHE) | 43% | Do not reject $H_0$ |
| Ln (CIE) does not Granger Cause Ln (GDP) | 27% | Do not reject $H_0$ |
| Ln (GDP) does not Granger Cause Ln (CIE) | 36% | Do not reject $H_0$ |
| Ln (DE) does not Granger Cause Ln (GDP) | 0.25% | Reject $H_0$ |
| Ln (GDP) does not Granger Cause Ln (DE) | 6% | Do not reject $H_0$ |

This goes alongside to Al-Faris (2002) findings, where Kuwait rejected the no Granger Cause from Capital Expenditure to Real GDP at the 5% significance level.

Table 6. Granger causality results (direction of causality)

| | |
|---|---|
| Ln (DE) | $\Rightarrow$Ln (GDP) |

## 5. Discussions and Policy Implications

Empirical results from previous section show that time series of the selected variables are nonstationary but exhibit a long-run equilibrium relationship. However, only development expenditures show a causal relationship with GDP, in which the direction of the cause goes from development expenditures to GDP. This means that a change in development expenditures will have a future impact on the GDP level but the reverse does not provide enough evidence to support such claim.

The fact that CEE, CHE and CIE do not Granger cause GDP and vice versa does not mean that a long-run equilibrium relationship does not exist as has the opposite been shown through cointegration testing in the previous section. It may indicate that other exogenous factors may have a bigger impact on the causality than the chosen variables. For example, Burney's (2002) findings indicate that the degree of openness in the economy has an effect on the overall relationship between national income and government expenditure. Furthermore, the existence of a long-run equilibrium relationship amongst these variables shows the importance of government spending on education, health and infrastructure on GDP levels and as such lends support to Wagner's hypothesis.

The results, however, shed light on which aspect of government spending has the most impact on GDP, in which in this case it is the development expenditures that have the most impact on GDP levels. In an open small economy with extremely high oil rents, capital expenditures would have a higher impact on economic growth than expenditure on health and education. This is due to the fact that a low-populated economy where the majority of population is considered as temporary residents, the impact of education and health expenditure on GDP will be minimal and as such will not be picked up in the econometric analysis.

Moreover, a closer look at the structure of education and health expenditures shows how the mismanagement of spending can result in the minimal effect of these expenditures to the growth rate of the GDP. According to the Ministry of Finance in Kuwait, between fiscal years 2005/06 and 2012/13, an average of 16% of government health expenditures were transferred abroad as health expenses, which can be seen as a leakage to the economy. As for education expenditures, during the same fiscal period an average of 58% of government spending on education were spent on wages. It is worth noting, that the percent of wages is the base salary and does not take into account miscellaneous expenses that account for the total wage received by the worker. The high spending on wages in public education can be seen as a hindrance to the total development of the economy and can pose a threat to the way the budget is allocated in the future.

As such, it is imperative that the government expands on the spending on development projects since they have the greatest impact on economic growth. Therefore, it is of great importance that the government continues with

its development plan and expand on the proposed projects.

In addition, the government should look at ways to allocate the education and health budgets more efficiently, since changes in these expenditures do not impact future GDP levels. However, it is worth noting that the population structure can play a role in the way the GDP reacts to government spending. As such, it is recommended that further research should be conducted on how demographics impact the validity of Wagner's hypothesis.

## 6. Conclusions

Given that Kuwait is a small open economy with extremely high oil rents, Wagner's hypothesis still holds with regards to a long-run equilibrium relationship between GDP and government expenditures in health, education and infrastructure. Nonetheless, this paper has taken it a step further and examined which aspects of government expenditures has the greatest impact on economic growth. Through Johansen cointegration testing and Granger causality testing, development expenditures have shown the greatest impact on the growth rate of the GDP.

Health and education expenditures also exhibit a long-run equilibrium relationship with the GDP. However, they do not exhibit a causality relationship amongst each other. This can be attributed to the minimal effect of a low population when compared to high oil rents and the possibility of budget allocation mismanagement.

The paper proposes an increase in spending in development projects, specifically relating to infrastructure, and it proposes to reevaluate education and health budget allocations in a way that will increase sustainability and promote overall efficiency while taking into account demographics.

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# Development of Product and Packaging Label for Kao-Taen (Rice Cracker) of the Agro-group of Kao Kwang Tong Sub-district, Nong Chang District, Uthaithani Province

Tawat Payim[1]

[1] Department of Design, Faculty of Agricultural and Industrial Technologies, Nakhonsawan Rajabhat University, Thailand

Correspondence: Tawat Payim, Department of Design, Faculty of Agricultural and Industrial Technologies, Nakhonsawan Rajabhat University, Thailand. E-mail: tawatpayim@ hotmail.com

## Abstract

This research was aimed to develop the product and packaging label for Kao-Taen (rice cracker) of the agro-group of Kao Kwang Tong sub-district, Nong-Chang district, Uthaithani province. It explored and developed Kao-Taen product using materials within the community, and evaluated the product design and packaging label by specialists.

The research results suggested the outcome of product development, with Kao-Taen of 3 cm. in diameter and 1.5 cm. thick, the size allows for more convenient consumption by consumers. The design of packaging label in style 3 with mean 4.92 was considered most appropriate. The key factors contributing to the community product development included available materials in the community, community's self-capability, presentation of community uniqueness, and low cost.

**Keywords:** development of rice cracker, rice cracker packaging label

## 1. Introduction

The agro-group of Kao Kwang Tong sub-district, Nong-Chang district, Uthaithani province, as an organic agro-group, is currently a center of local sage and wisdom. It serves to transfer the knowledge to general people about how to do agriculture that enables self-reliance and strengthen self-capacity of agriculturists and their family. The organic rice varieties produced here are Sin-Lhek, Riceberry, Hom-Nil, and Luem-Poa waxy rice. Herbal plants include thunbergia, bustard cardamom, lemongrass, turmeric. The fishes raised in the community pond are used for making fermented fishes called Pla-Rah. The local biodiversity provides rich sources of raw materials for extended development of value added production of other processed products to expand for broader marketing channels. This is in line with the Eleventh National Economic and Social Development Plan (B.E. 2555-2559) of Thailand which specified the strategy for strengthening the agricultural sector, food and energy security. The objectives under this strategy are to empower the agricultural sector to become an efficient production base that can produce food and energy with value, quality, high standards and remain environmentally sound, with the production responding to market demands, fair trade and affordable prices, while food security is the first priority; to improve the quality of life, job security and income in the agricultural sector, strengthen agricultural households and organizations to be self-reliant while practicing sustainable agriculture; and to promote the participation of farmers and local communities to support food and energy security and become self-reliant.

To create the value-added by utilizing law materials available within the locality is a way the community can achieve sustainable self-reliance. This is done by processing these materials into other products such as Kao-Taen (rice cracker) and increase marketing channels for the community group product, along with packaging development. Pornsanong Wongsingthong (2007, pp. 10-11) described that the objectives of research, development, and product design are to explore and expand the scope of knowledge, develop new product, develop production process, improve existing product and process, seek ways to gain additional benefit from existing products, search for technical information for the organization, and analyze the products of competitors. It agrees to the concept of Udomsak Saributr (2006, p. 37) suggesting that new product development involves

several key factors. The product must be better than those of other competitors. The product must be made to gain more preference. If the success of new product focuses on the criteria or specification, it should consider the marketing direction. The success of new product by making it somewhat different might be better than damaging the product itself during product development. Nirat Sudsang (2005, p. 45) referred to product development as the basic development for which at this stage is the function of research and development plan, the test of product functionality, to examine if the product is safe. For example, to identify the taste and safety of product, it has to be tried out prior to the committee's approval. Tested by consumers can also be done by either having them attending in the test or distributing to them to try it.

As stated earlier in the National Economic and Social Development Plan, and about the concept of product development by processing raw materials available within the community to make Kao-Taen product so as to promote and develop the agro-group for their sustained self-reliance. In the research and development process, the limitations of the group involve the lack of product uniqueness, the lack understanding about the criteria for commercial-based quality and standard assessment, and the lack of product design that satisfies marketing demands or various groups of consumers. These had led to unsuccessful distribution of the product, while it failed to quality and standard control, and lacked of capacity building in development of product design and packaging label.

## 2. Research Objective

To develop Kao-Taen product and packaging label of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province.

## 3. Conceptual Framework

The present conceptual framework adopted the criteria for selecting Thailand's One Tambol One Product (OTOP) of instant food category in dessert type defined by the National OTOP Administrative Board (2012, p. 33). The processed product along with packaging label were designed as follows.
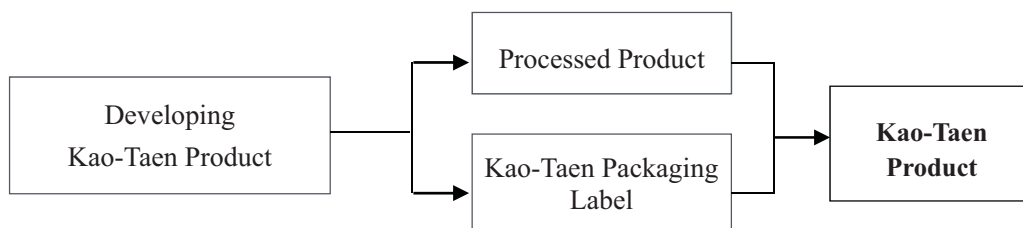


Figure 1. Procedures of the research framework

## 4. Research Scope

The scope in developing Kao-Taen product and packaging label of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province, includes population and samples.

Population:

Purposive sampling was carried out with the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province as they represent the center for local sage and wisdom and an organic agro-group. Members of this group are:

      1. Mr. Somsak Yimpuck

      2. Mrs. Jirawan Yimpuck

      3. Mrs. Panom Tongnongboa

      4. Mrs. Sommai Poomtong

      5. Mrs. Somjai Vasitthep

Samples:

The samples in the evaluation of Kao-Taen product and packaging label development are specialists of 3 aspects.

      1. Design specialist

      2. Food specialist

      3. Food processing specialist

The scope of Kao-Taen product and packaging label development:

This research identified the scope for processing rice product on the use of raw materials available within the community based on the need of community groups, focusing on development of Kao-Taen product.

**5. Definition of Terms**

1. Development of Kao-Taen product and packaging label refers to the use of resources in the community for processing as Kao-Taen, so as to create alternative channels to earn extra income for the group.

2. Agro-group refers to the group of self-reliant agriculturists of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province, as the center for local sage and wisdom and an organic agro-group.

3. Evaluation of product and packaging label refers to the evaluation by specialists on the group's logo design to be used on Koa-Taen package.

*5.1 Research Tools*

This research with the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province, employed a tool for specialists' evaluating on the designs of product and packaging label.

**6. Research Summary Results**

The development of product and packaging label for Kao-Taen of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province was intended to increase marketing channels for community's products either as gift/souvenir for visitors or as goods for selling. The figure below shows activities in practical session to make Kao-Taen product. The research results were summarized in 2 aspects, i.e. development of Kao-Taen product, and development of packaging label.



Figure 2. Practical session to make Kao-Taen product

The outcomes of the development of Kao-Taen product in practical session involve making Kao-Taen by using resources available in the community for extended development, new style of shaping Kao-Taen, and how to fry Kao-Taen without spoiling its shape. The group try to make Kao-Taen and distribute to others to taste it and obtain their feedback on the taste.

Table 1. Development of Kao-Taen product

| Group | Practice of product development | Development Stage 1 | Development Stage 2 | Development Stage 3 | Development Stage 4 |
|---|---|---|---|---|---|
| Agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province | Kao-Taen with watermelon juice recipe | Try-out making Kao-Taen with watermelon juice recipe | Kao-Taen mixed with grains | Kao-Taen with herbs recipe | Kao-Taen with different recipes - lemongrass - Tumeric −Thunbergia - Bustard Cardamom - Fermented fish |

In developing Kao-Taen product of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province, they began learning how to make Kao-Taen with watermelon juice recipe, later they tried

making Kao-Taen mixed with grains, next with other herbal recipes such as mixing with juices from lemongrass, turmeric, thunbergia, bustard cardamom, and then with fermented fish recipe. This community offers sufficient sources of materials to be used for extended development of Kao-Taen.

Table 2. Raw materials for making Kao-Taen product of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province

| Pictures | Details |
|---|---|
|  | Availability of natural materials for the agro-group of Kao Kwangtong. Richness of herbal plants sufficient for further extended development of Kao-Taen product. |
|  | Bustard Cardamom can add to new recipe for extended development of Kao-Taen. |
|  | Thunbergia can add to new recipe for extended development of Kao-Taen. |
|  | Thunbergia juice recipe for making Kao-Taen. |
|  | Lemongrass juice recipe for making Kao-Taen . |
|  | Tumeric juice recipe for making Kao-Taen. |

The availability of natural materials for the agro-group of Kao Kwang Tong includes those herbal plants that are plenty enough for making and extending the development of Kao-Taen product including such as lemongrass, turmeric, thunbergia, and fermented fish as ingredients of Kao-Taen.

In the design for developing Kao-Taen product, the researcher modified to shape Kao-Taen in the right size for one bite at a time considering the convenience of picking and the bite-size, as shown below.
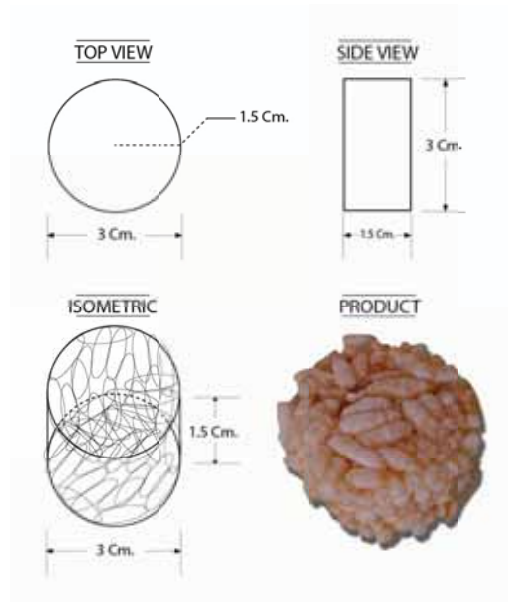


Figure 3. The size of Koa-Taen product

As seen in Figure 3, Kao-Taen being developed is 3 cm. in diameter, and 1.5 cm. thick, the bite-size allows for more convenient consumption by consumers. A summary result of packaging label development by the agro-group of Kao Kwang Tong showed that they applied the distinctive feature of a local significant place, that is, the story of Tak Bat Devo ceremony of Kao Sakreakrung, coupled with the name of Kao Kwang Tong as the concept for packaging label design. This concept rises from the need of the agro-group of Kao Kwang Tong themselves. The design steps are demonstrated below.



Figure 4. The concept of packaging label design for Kao-Taen by the agro-group of Kao Kwang Tong

A summary result of evaluation on the development of Kao-Taen packaging label of the agro-group of Kao Kwang Tong, based on the following 3 logos evaluated by specialists.



| Design 1 | Design 2 | Design 3 |

Figure 5. Packaging label for Kao-Taen product

Table 3. Result of evaluation on the designs of packaging label for Kao-Taen product (N=3)

| Logo Design | $\overline{X}$ | S.D. | Appropriateness |
| --- | --- | --- | --- |
| Design 1 | 4.33 | 0.49 | High |
| Design 2 | 4.08 | 0.51 | High |
| Design 3 | 4.92 | 0.29 | Highest |

Table 3 presents the result of analysis on the designs of packaging label for Kao-Taen product of the agro-group of Kao Kwangtong, Uthaithani province, suggesting the design 3 with mean 4.92 as most appropriate.



Figure 6. Kao-Taen product of the agro-group of Kao Kwangtong sub-district, Nongchang district, Uthaithani province

In conclusion, the development of product and packaging label of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province utilized materials available within the community for value added production. The shaping of Kao-Taen is in bite-size convenient to eat. The logo represents Kao Kwangtong sub-district. The packaging boxes are easy to buy in the locality. The investment cost is low for the product and it can be actually sold.

## 7. Discussion

Based on the result on the development of product and packaging label of the agro-group of Kao Kwang Tong sub-district, the size of Kao-Taen product is 3 cm. in diameter and 1.5 cm. thick, allowing for convenient consumption by consumers. Key factors contributing to the development of community products are the availability of materials within the community, self-capacity of the community groups, representation of community uniqueness, and low cost. It follows the guidelines introduced in Thailand's Eleventh National Economic and Social Development Plan (2016, p. 88) with respect to the strategy for strengthening agricultural sector, food and energy security, with an aim to promote strong and self-reliant agricultural sector.

The packaging label for Kao-Taen product of the agro-group of Kao Kwang Tong applied the distinctive feature of a local significant place about the story of Tak Bat Devo ceremony of Kao Sakreakrung, in combination with the name of Kao Kwangtong as the key concept to design packaging label. This concept came from the need of the agro-group of Kao Kwangtong themselves. This is consistent with the concept suggested by *Araya* Srikanlayanabuth (2007, p. 36) that before working on the design, the designer should realize the need of product owner. The design of Kao-Taen packaging label employed symbolic communication to convey the meaning, that is, with the background of Kao Sakraekrung and a deer at the front, a simple design. It corresponds to Kamchorn *Soonpongsri* (2015, p. 507) referring to Andy Warhol (1930-1987) one of the leading Pop artists who used a simple layout of elements. It also agrees to *Chalood Nimsamer* (2014, p. 412) who suggested that creativity is to create a sign to convey meaning among human, we use simple and understandable signs in which the layout of elements is simple.

In developing Kao-Taen product and packaging label of Kao Kwang Tong's agro-group, they desired to further the development of materials in the community in order to create jobs during the time after the harvest season. They made a choice of Kao-Taen product since the raw materials, instrument, and time are all available, and it is low cost as well. The factors or conditions for the group to develop the product can be described by individual factors, i.e. their main job was done; taking less time; minimum cost**,** and importantly, increased channels to generate income. For the development of packaging label, it must be simple, and selling the product is possible, with low cost. The success of product depends on several factors including the taste, design, and package of Kao-Taen that satisfy the demand of consumers, while keeping the cost low. It accords with *Chonlatis Darawong* (2015, p. 40) pointing out that the design needs to be attractive and safe in handling and functioning, easy understandable in use, easy to install, easy to store and maintain, save production cost, and production is possible. *Pornsanong* Vongsingthong (2007, p. 109) stated about human behavior towards a product such as picking, catching, touching a product. For functionality, the design should relate between the product and user. It was found that in designing the logo for Kao-Taen product, the agro-group focused on its convenience. *Naray* Khorjitmete (2016, p. 56) cited that how to select materials and design attractive packaging depends on the objective of product owner, short time, minimum cost, and increased channels of income generation.

## 8. Recommendations

According to the development of product and packaging label for Kao-Taen of the agro-group of Kao Kwang Tong sub-district, Nong Chang district, Uthaithani province, the following recommendations are provided for utilization of research results.

1. Community development along with product development is a way to mobilize the sustained development of the community since it allows for community-based learning exchange between vocational groups within the community for what they need to learn in common.

2. The outcome of processed Kao-Taen product using the raw materials in the community can be practically utilized and applicable to other community groups of similar type.

3. The design of packaging relevant to community situation under the requirements of groups to start processing new product should consider the design at low budget to help avoid the loss.

## 9. Recommendations for Further Research

1. Further research should develop the quality of product at higher level of standard such as upgrading the star quality or food quality standard along with packaging development.

2. The research result should be used to extend the development particularly in marketing promotion of community products for broader impact.

3. Further research should bring the knowledge obtained to create community business for strengthening community product.

4. For further research, other than the objective focusing on the work piece, it is also particularly important to promote community network and positive relationship between the government/non-government sectors and the community.

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# Preliminary Study on the Pharmacology Practical Teaching Reform in Pharmacy in Higher Vocational Colleges

Jiao Xu[1] & Tao Gong[1]

[1] Leshan Vocational & Technical College, Leshan, China

Correspondence: Jiao Xu, Leshan Vocational & Technical College, Leshan, 614000, China. Tel: 86-0833-227-2386. E-mail: xujiao711@aliyun.com

## Abstract

Pharmacology training course is an important part of pharmacology teaching and an important means to let students understand and master the basic knowledge of pharmacology. In order to meet the requirements of high-quality technical talents under the new situation, this paper, by making corresponding reforms of current training in pharmacology teaching contents, methods, means and examination method, and tracking questionnaire survey on course effect, explores a training mode of pharmacology to adapt the new trend of vocational education. A total of 188 second-year pharmacy students participated in the study. Course assessment and questionnaire survey were used to evaluate the reformed course. Students in this course performed well. The number of students who failed to pass the exam is 0. The data from the questionnaires indicated that students generally held positive attitudes toward the innovative teaching contents and model.

**Keywords:** pharmacology training, teaching method, teaching reform

## 1. Introduction

Pharmacology is a strong theoretical and practical subject, and the teaching process includes practical teaching and theory teaching. The practical teaching of pharmacology is a larger proportion in pharmacology teaching. It is the mutual authentication process of theory basis and practice operation as well as the extension and supplement of teaching theory. Through training teaching, students can improve their hands-on ability, logical thinking, the ability to comprehensively use knowledge, team spirit, data processing and writing reports, lay a solid foundation for further their employment. So, improving pharmacy practical teaching quality is the key to enhance the pharmacy teaching quality and also is the effective way to cultivate high-quality technical pharmacy talents.

However, the traditional pharmacological teaching method of is single and based on pharmacological experiments in the content. This is closely associated with the verification and research content; there is a disconnection between the training content and the requirements of pharmaceutical jobs for vocational education graduates. Several new teaching methods were tried in this area, such as simulative drugstore, cases based learning and online teaching (Gang & Li, 2012; Gupta, Arora, & Kaushal, 2014; Karaksha, Grant, Anoopkumar, Nirthanan, & Davey, 2013).

Therefore, this paper through the exploration of pharmacology teaching methods reform, changes the traditional mode that is centered as the validation of drug pharmacological activity to the new teaching mode as the center of clinical medication and pharmacy services.

## 2. Methods

Select 188 second-year pharmacy students at Leshan Vocational & Technical College as the research object, carry out the pharmacology comprehensive skills training courses based on clinical medication and pharmacy services, reform and innovate in the training content and training methods.

*2.1 Practical Training Content*

Practical training content has four modules.

2.1.1 Training of Basic Skill of Using Medicine

Teachers provide students with different drug packaging and instructions, each of two students is a group, each

group chooses five drugs, is familiar with the instructions, practices medicine introduction and medication guide. Then, the groups mock the patients who buy medicines, and the pharmacy service staffs introduce medicines and medication guide. They are required to accurately describe the main roles and purposes, detail the usage and dosage; clarify the adverse drug reactions, and explain the medication notes

2.1.2 Skills Training of Prescription Dispensing

The students are divided into 5 groups, each group reviews the 10 prescriptions provided by teachers, pick up the wrong types and points out the error type and records the analysis content in details. The groups can mock the patient and pharmacy service staffs according to the qualified prescription after the check, disperse the prescription and practice dispensing medicines.

Table 1. The record table of prescription-checking condition

| Prescription doctor | Name of Patient | Check result | Error type | Error description |
|---|---|---|---|---|
|  |  |  |  |  |
|  |  |  |  |  |

2.1.3 Guidance Ability Training of Common Disease Medication

Five students form a group, each group chooses a practical training topics. Topics include: medication guides of clinical common disease, such as hypertension, coronary heart disease, hyperlipidemia, acute upper respiratory tract diseases, bronchial asthma, digestive ulcer, acute gastroenteritis, iron deficiency anemia, urinary tract infection. Students are required to collect information in their extracurricular time, be familiar with the clinical manifestations of the disease, and guide the medication; through the production of presentations and explanation in classroom, the students complete the training content.

2.1.4 Comprehensive Ability Training of Medication

Introduce the knowledge contest mode, five students are a group. The teacher provides question and the groups discuss and provide answers. The topic involves in all aspects of pharmaceutical services. Through competition and group discussion, students can improve their interests in learning, positive thinking and problem-solving abilities.

**3. Evaluation Methods**

Evaluation methods include examination and questionnaire survey.

Examination: assess in accordance with the results of the training work (30%), the training teacher site score (40%), training test scores (30%). The maximum mark is 100.

Questionnaire survey: investigate and understand the students' evaluation on teaching process and results by issuing questionnaires to the students who participated in the training course.

**4. Result Analysis**

*4.1 Students' Performance and Interval Distribution*

The distribution of each grade section was in the Table 2. From the table, it can tell that the scores of the most students are concentrated in the 80-100 points, accounting for of the total number. The number of students who failed to pass the exam is 0. From the distribution of scores, the students do a good job in the course.

Table 2. Interval distribution of students' examination results

| Groups | Grade sections | | | | |
|---|---|---|---|---|---|
|  | <60 | 60-69 | 70-79 | 80-89 | 90-100 |
| Number of people | 0 | 3 | 30 | 112 | 43 |
| Percentage | 0 | 1.6% | 16.0% | 59.6% | 22.9% |

*4.2 Questionnaire Analysis*

A total of 188 questionnaires were issued and 184 questionnaires were recovered. The recovery rate was 97.9%.

4.2.1 Students Evaluation on Traditional Pharmacology Training

Through the questionnaire survey, it found that on the choices of the traditional laboratory operation training with experiment reformation and the integrated skills training with the application of pharmaceutical knowledge, 76.09% of the students loved the latter (Figure 1). Only 27.17% of students believed the traditional training could meet the learning requirements of the students on pharmaceutical professional skills (Figure 2). From the survey data, we could see that the traditional training cannot match the students' interests and requirements on pharmacological knowledge.



Figure 1. Comparison of students' satisfaction with different forms of Pharmacology trainings
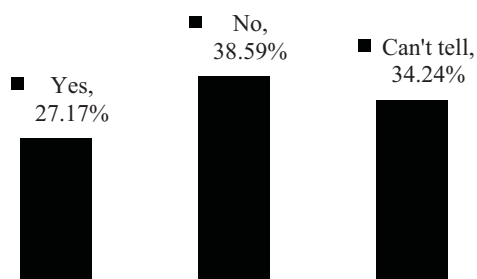


Figure 2. Evaluation of students about whether could the pharmacology of traditional training course meet the requirements of professional requirements

4.2.2 The Students' Evaluation on Reformed Training Course

Students' evaluation results on reformed content see table 3. From the Table 3, 67.39% of students were satisfied with training contents, 76.63% of the students expressed their satisfaction with the teaching methods. Whether the training content could reflect the learning requirements of pharmacology course, 70.65% of the students' answers were yes. The survey result improved 43.48% compared the one of whether the traditional pharmacology training can meet the students' requirements for the pharmacy professional skill learning (27.17%). From the above, the students' satisfaction degree of reformed training course is high, more close to the students' requirements on learning professional knowledge.

Table 3. Students' evaluation statistics on reformed training course (%)

| Survey content | Yes | No | Can't tell |
|---|---|---|---|
| Are you satisfied with the reformed training content? | 67.39 | 6.52 | 26.09 |
| Are you satisfied with the teaching way after the reform? | 76.63 | 4.89 | 18.48 |
| Do you think the reformed training content can reflect the learning requirement of pharmacology course? | 70.65 | 9.78 | 19.57 |
| Can the reformed course content strengthen students learning interest in pharmacy knowledge? | 76.63 | 4.89 | 18.48 |
| Can the reformed course content improve the team coordination ability? | 83.15 | 3.26 | 13.59 |
| Can the reformed course content improve students self-study ability? | 70.11 | 9.78 | 20.11 |
| Can the reformed course content improve students' ability to use theories to analyze and solve problems? | 78.26 | 4.35 | 17.39 |

In terms of the improvement of students' comprehensive quality by reformed training contents, 76.63% of students believed the new training course could increase their interests in learning the pharmacy knowledge; 86.15%, 70.11% and 78.26% of the students thought their team cooperation coordination ability, self learning ability, use of theoretical knowledge to analyze and solve problems were strengthened. The results showed that the new training course had a significant improvement in improving students' comprehensive abilities compared with the traditional one.

4.2.3 The Docking Degree of Reformed Training Content and Professional Post Demands

The survey data of docking degree of reformed training content and future job demands showed that 60.33% of the students believe that d0cking of course content and job demands was better, and 27.72% believed there were fewer docking and 7.07% believed there was no ducking at all(Table 3).The results showed that the reformed training course content could better adapt to the students' demands for future job after their graduation, further met the requirements of talents in Higher Vocational colleges.
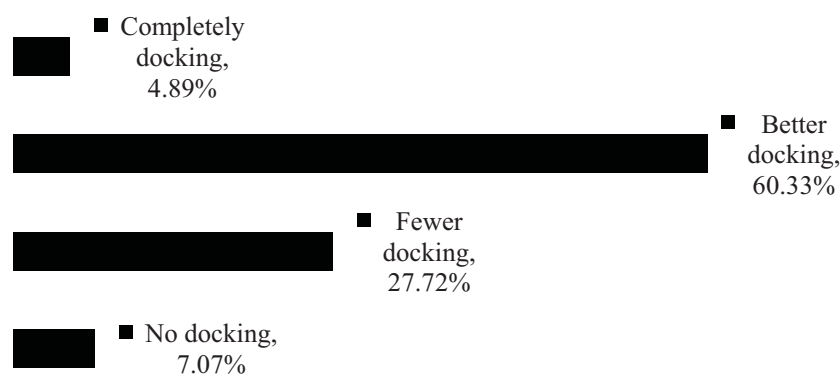


Figure 3. the docking degree of reformed training content and professional post demands

## 5. Discussions

The traditional pharmacological teaching method takes the verifying experiment operation as the training content, explores the Pharmacological activity as the purpose, and has the disconnection with the practical needs of future jobs. It cannot meet the talent cultivation needs of higher vocational colleges, so, it is imperative to reform the training contents, add the training course to meet the demands of future jobs. The course takes the several scenes involving pharmacy services as the main training contents, fully mocks the actual work situation, the content and form are more close to job requirement, has achieved good training effect.

The traditional pharmacology teaching mode has some disadvantages, especially passiveness and single teaching mode (Li, 2014). The reformed training course will change the passive imitation learning into positive active exploration learning. In the new training mode, students need to consult the literature in their spare time to prepare training materials. Self-learning can improve students' internalization of basic pharmacological principles and provide a greater opportunity for self-study and collaborative study (Li, Yu, & Yue, 2014). In this process, students find the problems and can discuss with teachers or students in the training, students became to study actively from passively. In the classroom, teachers use more flexible and diversified teaching methods, such as scene simulation, multimedia presentations and panel discussions, to further mobilize the students' initiative and enthusiasm in the learning process, and achieve good results.

In the further teaching reform, it can develop the virtual training platform based on this, using computer technology to expand the classroom training to the extra-curricular study (Kamath, 2015). Students can use software to practice the training freely and strengthen the learning effect. As for the training facilities, in order to have a smooth start of the new training course, it should increase the investment in training basic facilities, establish open training room and provide more training opportunities for students.

Training evaluation is an important link of training teaching and can urge students to complete learning mission of each class, which can reflect students' learning attitudes, the abilities to analyze and solve problems, and also the important ways to check and improve the effects and teaching qualities (Xue, Wang, Jiang, & Liang, 2012). The previous training examination were writing the training reports, and students only completed the training

according to the requirements of the training manual, handed over the reports on time, resulting in the almost same reports the neglecting the evaluation on students' behaviors in training process. In the new mode, the examination methods include the teachers' on-site evaluation, PPT production and presentation and evaluation, group discussion and defense and other ways, the process evaluation will be the focus of training examination, so that the results can better reflect students' learning effect in training process. Besides examinations, it is important to take regular feedbacks from the students to make the teaching more useful, interesting and effective (Tikoo, Gupta, & Geeta, 2015). Questionnaires for students was used in this paper to gather feedback and a lot of useful information was obtained for further improvement of pharmacology teaching reform.

## 6. Conclusions

Traditional pharmacology training course has been unable to meet the actual needs of the community for graduate students in pharmacy. Through the practice of pharmacology teaching reform, on one hand, it enhanced students' interest in pharmacology theory and practice and improved the importance of training course in teaching students' professional knowledge; on the other hand, through the change in teaching method, it encouraged and cultivated students' teamwork ability, self learning ability and using the theory knowledge ability to analyze ad solve problems, so that students' comprehensive quality is improved, laying a good foundation for the training of practical pharmacy talents.

## Acknowledgments

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# Collective and Organic Farming in Tamil Nadu: Women's Participation, Empowerment and Food Sovereignty

Dhruv Pande[1] & Munmun Jha[1]

[1] Department of Humanities and Social Sciences, Indian Institute of Technology, Kanpur, India

Correspondence: Dhruv Pande, Post-Doctoral Fellow, Department of Humanities and Social Science, Indian Institute of Technology, Kanpur – 208 016, India. Tel: 91-512-259-6213. E-mail: dpande@iitk.ac.in

## Abstract

The aim of this paper is to explore the notion of women's participation, empowerment and food sovereignty among the marginalized women farmers in the state of Tamil Nadu in India. The women farmers who belong largely to the so-called lower castes have been marginalized due to the persistent presence of the patriarchal structure and the continued oppression and discrimination in a caste-ridden society. This is supported and supplemented by the policies and politics of globalization through the state apparatus. This research, based on the fieldwork method, highlights the hitherto undermined role of women farmers in the wake of their efforts at establishing enhanced and sustainable socio-economic relations in connection with the local agricultural land which accounts for their economic and social independence and sovereignty, especially food sovereignty. The process marking this transformation includes collective and organic farming based on millets leading to the creation of an inherent and integral food sovereignty vis-a-vis the increasing usurpation of agricultural land through the nexus of the state government and private companies. The paper also analyzes the issue of land ownership, litigation cases involving women, and the role of community organizations which impel the hitherto marginalized women towards self-sustainable, self-sufficient and self-governed environment in rural agricultural economy.

Keywords: informal political economy, land disputes, rural farming, women's collective

## 1. Introduction

This paper outlines relationship between the three concepts of women's participation, empowerment and food sovereignty. It seeks to show how these three concepts are inter-related through collective and organic farming practices by the marginalized women in rural hinterlands of the state of Tamil Nadu, India. It critically examines the nature and scope of the practices of collective and organic farming in the village communities, in rural Tamil Nadu. The recent trends in the globalization policies bring with them a number of activities and practices that are barely questioned due to their imposition and implementation through the neo-liberal hegemony. Subsequently, this affects the environment, especially in the developing countries. The paper reflects upon the specific policies of globalization that need to be addressed in order to protect the natural habitat and ensure a basic minimum standard of living for the women of these communities.

This paper is divided into two main sections: the first section deals with the creation of food sovereignty through the practices of collective and organic farming. The initiatives as part of these practices are based on a context: location, situation, time and physical environment. These initiatives are original, innovative and formulated by the local women in these villages. They are differently adapted, variable according to the predominant factor of availability of the natural resources in each village and the interest factor reciprocated as a consequence of the efforts made by the Tamil Nadu Women's Collective (TNWC), a non-governmental organization that is active in some specific districts in Tamil Nadu. Hence, collective and organic farming bear the notion of not only changing the course or nature of agricultural economy and practices in this part of rural India, but also introducing a variety to the existing paradigms of women's socio-economic upliftment, especially in relation to women belonging to the lower castes in rural Tamil Nadu.

The second section deals with the issue of land ownership rights and litigation cases involving the so-called lower castes, specifically the dalit women. This section highlights aspects of the legal-constitutional framework from the perspective of women and gender as a sociological construct. The women and their constantly emerging

relation with land bears significance to the right to life or the right to live with respect and dignity. Do these cases promote their land-ownership rights? Or do these cases merely benefit other members of the family, especially the male patriarch? Here too, what role does the TNWC play in providing support and guidance to these women? These are some of the questions that will be discussed in this section.

This paper argues for alternative models of the rural agricultural economy. These models are based on local practices initiated by the local rural women. The demarcation of villages on caste lines gives rise to a need for a more equitable living and working conditions. Hence, the two sections of this paper highlight the close relation the women populace have with collective participation, empowerment and the construction of food sovereignty. The paper also highlights the strategies that the women undertake towards the protection and safeguarding of land as a natural resource from the imposition of neo-liberal globalization policies implemented through the state apparatus.

The framework and guidelines of these practices bear an everyday dynamics in the light of new, innovative strategies and techniques used not only for safeguarding land but also for ensuring a sustainable livelihood with respect and dignity in the long run. Economic self-reliance brings with it self-governance and self-rule that results in self-dependence rather than dependence on external institutional factors which in any case often prove to be ineffective. The state government, however, of late has shown some signs of efficient functioning and regulating the mechanisms of rural agricultural economy.

The working and functioning of these models thus pose a formidable challenge to the imposition of globalization and privatization regimes which seek to set up a large number of establishments for the benefit of a single enterprise but on the other hand, provide negligible advantage to the farmers whose lands are being taken away in the wake of the neo-modern development paradigm. As Folmer, Dutta and Oud (2010, p. 375) have observed:

> A farmer's *professional* status is assumed to be determinant in that it indicates one's interest in, among others, the adoption of new production techniques and exploring new avenues such as Rural Industrial Entrepreneurship (RIE). We hypothesize that the higher the professional status, the higher the farmer's probability that he/she will start an RIE. This train of thought is based on the assumption that a farmer with a relatively high professional status in agriculture will strive for an even higher status, which may take the form of starting up or running an RIE.

The promise of employment opportunities as part of this paradigm remains unfulfilled as the consequences of such privatization practices are severe on the ecology of nature, natural resources, livelihood, social, cultural and economic practices of the affected population in a rural set-up.

Tamil Nadu is a state in the southern part of India with 32 districts and a population of 72 147 130 (as per the 2011 census) and a literacy rate of 83%, the sex ratio being 996 females per 1000 males. Climatically, Tamil Nadu is a tropical region with less than average rainfall as compared with other parts of the country.

> In the context of widespread poverty and environmental degradation, this means an increased work burden, lower nutritional intake and consequent lower health status. Women's subordination can be overcome through an institutional structure which allows: (a) poor and landless women access and control over productive resources; (b) regenerates the environment; (c) provides house-hold food security; and (d) ensures sustainability of these efforts (Datar & Prakash, 2001, p. 224).

## 2. Methodology

The fieldwork for this research was undertaken in six districts of Tamil Nadu, namely Thiruvallur, Vellore, Madurai, Sivagiri, Tirunelvelli and Chennai. The districts were chosen due to the work carried out by Tamil Nadu Women's Collective (TNWC) in these districts. In each of the districts, five villages were selected on the basis of active participation of TNWC staff in the farming practices and the involvement of women farmers. TNWC as a rural-women based organization was the medium through which these districts were chosen as case-study of this research. The staff of TNWC in the villages acted as intermediaries between the researcher and the subjects, that is, rural dalit women farmers. The staff of TNWC also acted as language translators for facilitating communication between the researcher and the subjects. Interviews were conducted with 30 women farmers in each district and focussed group discussions were carried out with self-help groups in each of the village. The fieldwork was carried out in two phases: from August to September 2013 and in March 2014. Documents relating to land litigation cases were collected and studied.

The daily patterns of their activities in the light of studying their farming practices, the need for a proliferation of these practices and their subsequent outcomes were also observed. By visiting a village each day, interviews were conducted with the women farmers. Interviews conducted were formal as well as on an informal basis.

Hence a kind of dialogue was generated between the researcher and the subjects.

## 3. Collective and Organic Farming: Food Sovereignty

The concept of collective farming, a relatively contemporary phenomenon in rural agricultural economy (since the last decade) is varied according to the local circumstances and contexts. It is closely related to the notion of grassroots groups.

> Grassroots Groups are community-based, generally small in scope and scale, and focus on issues that directly impact members' lives. The groups provide a space for women to articulate their experiences, listen to others and consider individual and collective challenges to injustices. Participation in such groups can be critical for the deeply disadvantaged, such as poor women, who have accepted silence and repression as part of their lives. But initial facilitative leadership is required for organising such grassroots groups (Subramaniam, 2011, p. 73).

The collective farming technique used in each village was different from one another. The number of women in a collective varied from 5 to 30 members. This practice is in contrast to the traditional farming practices which includes farming solely by men or by individual families. The impetus to this practice was provided by the TNWC since the early 1990s, more specifically 1992. This practice was carried out by the system of rotational cropping and also seasonal cropping, as the collective decisions taken by the members were eventually for the benefit of all the members of the collective. This included the decision to sow seeds in the fields at a particular time in order to ensure maximum yield.

Closely linked to collective farming is the notion of participation.

> I conceptualize participation not merely membership but as involving interest and commitment to the group. Initially, one becomes nominally a member of a group which is typically measured as membership of attendance. This is followed by participation in group activities such as discussion and decision-making, and speaking up or voting in the group. It includes leadership action that may occur in a distributed and non-hierarchical form; a diffused form of leadership which becomes salient in older groups (Subramaniam, 2011, p. 75).

The need for collective farming arises out of women's concern for supporting their family due to low income of the male-head or little source of income in many rural families, especially the Dalits. This also enhances the collective social spirit by working together in a communion, in cooperation, ensuring each other's well-being and welfare which was otherwise not apparent in isolated living within a family or suppressed living conditions under the male-heads or the domination of in-laws in many families. Hence, holistically the practice of collective farming began to be looked up as a long-term sustainable way of living by many of the marginalised women. Thus, as Schein (2003:132) points out correctly:

> Five categories emerged as reflective of the meaning of work-related group participation for the women: no longer marginalised, social and emotional support; group and organising skills; technical skills; and rights awareness and protection.

Moreover, the requirement for introducing this alternative method in farming has also come about due to the deteriorating condition of agriculture in India. In this context, the grassroots resistance was a result of the emerging crisis:

> The largest struggles against displacement in rural areas were triggered by government and private measures to implement the Green Revolution...They include resistance to reforestation projects that would replace native forest with commercially attractive monocultures.... (Angotti, 2012, p. 394)

The nature and character of grassroots resistance has been described thus:

> This grassroots resistance brings together scientists, educators, and activists and provides information about the environment, energy and public health. Its activists have contributed to the movements to save the forests and bring to environmental issues an approach that incorporates social justice. They produce and disseminate environmental information through workshops, publications, and other media that are accessible to a wide audience. They are one among many local movements that have alternately criticized and allied with the political parties and government agencies supporting independent development (Angotti, 2012, p. 395)

The introduction of millet farming has supplemented the process of collective farming. This has introduced a variety of seeds with assured yields. Erratic rainfall leading to a scarcity of water resource has led to a need for cultivating millets as these require minimum or negligible amount of water. Millets are made available through

the TNWC and subsequently guidance is also provided by the TNWC staff members with the help of agricultural experts in order to facilitate effective implementation of this kind of farming.

The TNWC holds regular meetings to analyze the success and failures in different settings of millet farming, so as to curb the ill effects, and to fulfil the aims, goals and objectives. Hence questions and concerns are raised about the variety and type of seeds and also the farming techniques used with an optimum combination of timely sowing of seeds, providing the basic minimum required amount of water, timely harvesting and above all timely rotational system of cropping.

These factors mentioned above are significant in determining the successful implementation of millet farming and also the effective functioning of collective farming as rotational cropping itself becomes one of its prominent features. Rotational cropping is important in light of the practical feasibility of not being completely dependent on just one kind of cropping pattern or variety of crops for a higher expectation of higher yields; rather with rotational cropping a trial method is put into practice by ensuring maximum yields in a limited period of time.

Another significant feature worth mentioning is that all of the practices, manners, methods and techniques are carried out depending on the informal education received by the women farmers through the TNWC. This informal education itself suggests a system of training garnered through the everyday farming practices. The knowledge and awareness generated through these training sessions and the technical know-how imparted makes these women capable of managing such farming practices effectively on an everyday basis.

The returns from the joint practice of collective and millet farming are mostly for local consumption. The returns are equally divided among the number of women involved in each activity. A small part of the produce is also sold at the nearby local market.

One of the significant impetus provided to such farming practices comes from the training provided by the TNWC to the women farmers: these include prohibiting of the use of pesticides, and using alternative forms of manures and techniques to ensure fertility of land. The training sessions are quite significant in light of the lack of knowledge of agricultural mechanics and also a lack of spirit of a functional collective in village communities.

Apart from collective farming, another kind of farming practice – organic farming – has been introduced in an effective manner considering the availability of natural resources. Organic farming has enhanced the growth of an agricultural economy by introducing new, innovative techniques and practices of farming which are least dependent on the natural rainfall conditions. Besides, it has also supplemented the financial-social sovereignty of the rural women by giving the entire process of this farming in their own hands, thus enhancing an educative communion among them by sharing their individual experiences of organic farming and the returns or benefits that they have achieved in their individual cases.

> The organisational structures supporting smallholder organic agriculture in India fall into four forms: farmers organised by a company, (2) farmers operating under NGO initiatives, (3) farmers organised or facilitated by government, and (4) farmers forming their own organisations (cooperatives, associations, self-help groups, etc.). However, in many instances, these basic organisational forms coexist with one another, giving rise to more complex structures (Das, 2007, p. 2243)

The women farmers have enhanced their self-knowledge in the area of farming and cultivation and hence fortified their relation with the local land. The self-knowledge gained from working in their own fields has been replicated by working in another's fields as well, thus producing optimum returns, benefitting all in the wider village community. Despite the absence of formal school education, the women, through the strong support of TNWC, have gathered financial and social benefits for the community by motivating other suppressed women folk in neighbouring villages as well.

However, the context of usurpation of agricultural land by the state in nexus with private companies and enterprises has affected the terrain and fertility of the land apart from considerably reducing the availability of land for agricultural purposes. The schemes and programmes of the state-sponsored mechanisms – such as marking of the Special Economic Zones (SEZs), setting-up of privately owned educational institutions, industrial establishments and others – are constantly questioned as these pose serious ecological concerns apart from the loss to financial and social capital otherwise generated by rural initiatives.

The participatory rural appraisal held at regular intervals, bring together the women farmers and the TNWC staff members. This appraisal is in the spirit of a deliberative democracy from the grassroots; gives authority and power in the hands of the women farmers to assess and make a collective decision about the usage of land, in response to external forces such as state-sponsored constructions and schemes of the state-supported private enterprises. As Subramaniam (2011) has noted such practices which challenge the view that poor women only

organize around economic issues in a passive and defensive way, which denies them agency and consciousness.

## 4. Land Ownership Rights: Litigation Cases

Entitlements to land are determined by diverse socio-economic systems that have evolved over time and sometimes exist concurrently. In South Asia, for example, inheritance patterns in land vary within and between countries and further by region, religion, caste, community and ethnicity. The social norms and institutions that constrain women from claiming and controlling land vary region by region. They cause disadvantage to women more in certain region than others. Variations persist, as in India as a whole, in relation to inheritance of agricultural land in the tenural enactment of different states (Velayudhan, 2012, p. 507).

One of the prominent features arising from this study relates to a negligible or absence of land ownership rights for women, especially the Dalits, in rural Tamil Nadu. The ownership of land usually resides in the name of male heads of the family. This is despite the contributions made by women in building up a strong relation with the land, including providing constant physical labour.

The theoretical approach to understand land ownership among women refers to social, economic, political, and legal structures and processes that play a role in maintaining the status quo and deepening of gender inequality and discrimination or opportunities and support that these could provide. Awareness among women and initiatives taken by women to ensure their legal rights are also considered to be equally important aspects. ...The women's empowerment framework focuses on women's participation in law making, political institutions, governance and such avenues for ensuring women's land ownership and land rights. Which agency is effective in ensuring gender equality is also a point of research/academic inquiry (Vasavada, Rajgor, &Ganguly, 2015, p. 276).

The wage per day for the work done by women is determined by the number of hours of physical labour in the fields: women work in their own family-owned fields or hired as a field-workers. The payment of daily wage does not bear a standard and is different in different districts of Tamil Nadu.

Even in the labour exchange system, a woman farmer has to work for two days against a day's work provided by the male farmer if he is not related to her. There is a huge difference in wages paid to men and women, not only due to the perceived physical strength required for the work but also because of the perceived difference between men and women (Panta & Resurreccion, 2014, p. 232).

Furthermore, individual case-studies of court cases around dalit women highlight the nature of land disputes in which women are used as mere subjects in the hands of the parental and the in-laws' family in order for the latter to gain benefits. However, the presentation of litigations in the local courts do bear this suppressed gender perspective as the women who are involved in the court hearings have the support of a legal advisor provided by the TNWC. Thus, apart from being merely subjugated, the voice of the women does find a place in the proceedings. This brings forth their perspective, the question of the right to life, and hence the discourse of human rights concerns.

The individual case-studies of court cases bring to the fore the nature of law, legality and the legal processes in dialogue with this section of the rural society. Hence what has been invoked is a case for the legal pluralism in the social scientific research framework. The existence of such cases as an active component of this mechanism provides a perspective of law which has otherwise been undermined due to the women traditionally being subjected as mere tools in the hands of individual domestic households.

Since land constitutes the most important income-generating asset of the rural poor, a change in the agrarian structure due to changes in the distribution of land holdings reflects relative prosperity or destitution of different sections of the rural population...Naturally, alienation of the small and marginal farmers from their land, and their subsequent conversion into landless agricultural labourers put an end to their traditional form of self-provisioning and make them entirely dependent on the market for their basic needs, fulfilment of which depends on the availability of employment (Ghosh, 2009, p. 284)

## 5. The Elderly, Women Panchayats and Children's Panchayats in the Rural Agricultural Economy

Apart from the features mentioned above, some other factors of socio-economic-political milieu act upon directly and indirectly on the dalit rural women farmers in Tamil Nadu. In each of the village studied, there exists effective Elders' Groups, supported by the TNWC. The Elders' Groups actively promote savings among the elderly women and men in the villages. Savings arise out of farming practices apart from some basic financial support provided by the TNWC. These micro-savings, especially among the elderly women, help in maintaining land holdings which otherwise face a threat of diminishing over a period of time.

Women particularly from nuclear households face several constraints in rice farming. There are lack of access to technical knowledge related to new methods of farming including new seeds, lack of access to improved varieties which are tolerant to drought and submergence and personal problems (Paris et al., 2005, p. 2528).

Additionally, the active role played by Women Panchayat leaders in some villages help in the fortification of the rural informal economic paradigm.

The organisation of Childrens' Panchayats with a special focus on the role of the girl child has considerably paved the way for an enhanced social life for women in the village communities by invoking a ban on sale of alcohol in the neighbourhoods and by promoting campaigns against the use of plastic, and even the consumption of aerated soft drinks.

> ...changes in cropping patterns have brought about dramatic changes in women's participation in cultural practices, which were linked to various aspects of the production process of local food crops. Specific songs were sung during sowing, weeding and harvesting of different crops. Special harvest festivals were celebrated for specific crops. Women had the public space to sing, dance and celebrate. All this has stopped with the shift to new crops. There are no songs to be sung, no harvests to be celebrated. Women in many areas have virtually stopped the collective celebrations that were so much a part of their lives. This has further disempowered them, and restricted their freedom and creative expression (Ramdas et al., 2001, p. 184).

## 6. Conclusion

Collective farming is a progressive method used by the women, especially dalits as it empowers them through participation in decision-making in relation to agricultural practices whether it is about seeds, crop-cultivation, harvesting etc. They are not dependant on any external source or authority, no governmental or state apparatus support is required by them in the functioning of this kind of farming.

They also experience financial sovereignty in the sphere of domestic household with no support required from their male-counterparts or male-heads of the family. This enhances the scope and arena of rural agricultural economy by bringing in the marginalised women who were otherwise merely chained to domestic household tasks and activities.

This highlights the significance of the creation of food sovereignty, advocating its strong presence, utility and continued significance. The need for such sovereignty is felt all the more in the light of depleting economic and financial condition of dalit families who are affected by the stagnation of traditional methods of farming on one hand and the changing environmental concerns on the other.

A complementary effort is the role played by the TNWC in supporting and promoting the practices of food sovereignty among the individual as well as collective women farmers of Tamil Nadu. Food sovereignty is the need of the hour not only in Tamil Nadu but also other parts of the Indian sub-continent which face the challenge of non-performance or low performance by the state and central government as well as depletion in the availability of natural resources.

A significant part of this sovereignty is feasible and facilitated through the collective communions which have been successful in terms of their durability and local legitimacy within the local socio-economic, political and cultural atmosphere. Additional help provided by the Women Sarpanch leaders and Self Help Groups has led to a decent standard of living besides providing social empowerment.

> A core part of what Gendering Agricultural Aid began to advocate from 1985 forward was gender 'mainstreaming'. With mainstreaming, the purpose was to have gender issues diffused throughout government and development bureaucracies, with gender integrated throughout all policies, programs and practices (Ransom & Bain, 2011, p. 52)

In the wake of preservation of the ecology of land amidst the 'human wars' are posited questions about preserving the integrity of the land, shielding it from an unnatural fabric of undesired 'development' under the name of modernity. The garb of generating employment opportunities, which usually stagnates after a period of time, results in the eventual loss – the loss of the land, the loss of the only source of survival—affecting the naturally-existing ecology. Moreover, the expansion of local knowledge of these women farmers eventually aids in expanding the nature of agricultural reforms and bringing in a new, alternative, and authentic modernity.

The political legitimacy and authority over land in rural India resides in the hands of the local population. Their demands and claims ought to be taken into consideration in order to arrive at an inclusive policy making.

The practice of collective and organic farming has introduced and made remarkable changes: enhanced awareness about farming and its significance for women, the utility and long-term effectiveness of farming as a dynamic practice rather than a stagnant one, imparting informal education on farming techniques and functioning of machinery and equipments, addressing environmental concerns by invoking a sense of belongingness, invoking a sense and a spirit of social, ethical and moral responsibility among the youth by taking into consideration their views and perspectives in participatory decision-making.

> A successful framework for small farmer agriculture, which would also fulfil the tenets of a human rights approach to development, requires a substantially different kind of production collectivity...In particular from the lessons learnt we can suggest that collectivities should be framed around at least six principles: (1) Voluntariness, (2) small size, constituted of, say, groups of 10-12 or 15-20 farmers, (3) socio-economic homogeneity or marked social affinity among members, (4) participatory decision-making in production, management and distribution, (5) checks and penalties for containing free riding and ensuring accountability, and (6) group control over the returns and a fair distribution of the benefits, as decided transparently by the members (Agarwal, 2010, p. 67)

Nevertheless, what one learns and gains from another significant section of these models is the following number of characteristics among other results and outcomes: introducing a gender(ed) perspective to the reading of the law, showcasing to the other sections of the society the underlying importance of women to the land through depicting the strong relations they develop with their land, manifesting an important aspect of the concept of women's social and legal participation and empowerment, diversifying and declassifying the legal claims in the courts of law through women activists and women legal advisors themselves becoming torch bearers and proponents for a pertinent cause of gender social justice in the Indian society.

Thus the lessons learnt and benefits accruing are transcendental, cross cultural, inter disciplinary in social thematics, as the concerns, issues and perspectives are of significance not only for the Indian sub-continent but also other developing countries around the world.

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# Relationship between Social Support, Time Perspective and Suicide Ideations in Patients with Multiple Sclerosis

Saeed Ariapooran[1], Masuod Rajabi[2] & Amirhosein Goodarzi[3]

[1] Assistance professor, Department of Psychology, Malayer University, Malayer, Iran

[2] MA in Educational psychology, Malayer, Iran

[3] MA in psychology, Malayer, Iran

Correspondence: Hamedan Malayer, Department of Psychology, Literature and humanistic College, Malayer University, Malayyer, Hamedan, Iran. E-mail: s.ariapooran@malayeru.ac.ir

## Abstract

**Introduction:** Patients with Multiple Sclerosis (MS) are at risk for Suicide Ideation (SI). The relationship between Social Support (SS) and Time Perspective (TP) with SI is important among patients with MS. This study was performed to determine the prevalence of SI and the correlation between SS and TP with SI in Iranian patients with MS in Nahavand and Malayer.

**Methods:** Using a cross-sectional analytic research design, we selected 79 participants among patients with MS in Nahavand and Malayer, Iran. Beck Scale for Suicidal Ideation, Multidimensional Scale of Perceived Social Support and Zimbardo's Time Perspective Inventory were used for collecting the data.

**Results:** The obtained results indicated that 30.3% of the patients with MS suffered from SI. There was a negative correlation between SS (from family, friends and significant other), Past Positive (PP) and Future (F) orientations and a positive correlation between Past Negative (PN) orientation and SI; SS from significant other and PP negatively predicted the SI in patients with MS.

**Conclusion:** Based on the obtained results, the relationship between SS, PN, PP, F and SI and the role of SS from significant other and PP in predicting the SI in Nahavand and Malayer patients with MS were confirmed. Thus, it is necessary to develop support systems and apply the TP-based treatments for patients with MS who are at risk for SI.

**Keywords:** suicide ideation, social support, time perspective, multiple sclerosis

## 1. Introduction

Multiple Sclerosis (MS) is an autoimmune disease of the central nervous system that results in demyelination and axonal degeneration. Individuals with MS suffer from many symptoms related to the neuronal tissue damage, such as visual loss, weakness, imbalance, change in sensation, movement disorders, bladder or bowel dysfunction, depression, and cognitive problems (Miller, Karpinski, & Jezewski, 2012). It affects approximately 2.5 million of people worldwide (Serafini, Pompili, Forte, Amore, & Girard, 2014). According to Bakhshani (2010), the prevalence of MS is about 15 to 30 cases per 100 thousand people in Iran (cited by Amirfakhraei, Babaei, & Zakipoor, 2015).

The cause of MS is still poorly understood and its treatment is a huge challenge (Rao, Huber, & Bornstein, 1992). Many secondary consequences of the MS, are fatigue (Bergamaschi, Romani, Versino, Poli, & Cosi, 1997; Strober & Arnett, 2005), depression (Minden & Schiffer, 1990; Sadovnik et al., 1996; Patten, Beck, Williams, Barbui, & Metz, 2003; Solari et al., 2004; Dahl, Stordal, Lydersen, & Midgard, 2009; Kang, Chen, & Lin, 2010; Dehghan & Memarian, 2013; Sarisoy, Terzi, Gümüş, & Pazvantoğlu, 2013), sleep disturbance (Clark et al., 1992; Lobentanz et al., 2004; Razazian, Najafi, Mahdavi, & Aghaei, 2014) and anxiety (Shabani, Attari Moghadam, Leily Panaghi, & Seddigh, 2007; Dahl et al., 2009; Dehghan & Memarian, 2013). It is believed that suicide ideation (SI) and suicidal behavior occur more frequently in MS patients compared to the general population. The risk of suicide in patients with MS is more than general population in Denmark (Brønnum-Hansen, Stenager, Nylev Stenager, & Koch-Henriksen, 2005; Giannini et al., 2010). The proportion of death by suicide among

patients with MS is 7.5 times higher than for the general population in Canada (Sadovnick, Eisen, Ebers, & Paty, 1991). De Cerqueira et al. (2015) indicated that 8.3% of the MS patients had a past history of attempted suicide, and 8.3% had a current suicide risk. In the study of Askey-Jones, Silber, Shaw, Gray & David (2012), 16% of MS patients had made suicidal plans.

SI is one of the psychological problems associated with the risk of suicide in MS patients. It refers to self-reported thoughts of carrying out suicide-related behavior and includes thoughts and cognitions about suicidal behaviors (O'Carroll et al., 1996). Feinstein (2002) showed that depression, alcohol abuse, and social isolation are important factors related to SI and suicide attempts in patients with MS. In their study, the rate of SI and past suicide attempts was 28.6% and 6.4%, respectively. According to a review, most studies have documented a higher suicide rate in patients with MS compared to the general population (Pompili et al., 2012). A few studies have been carried out about the prevalence of SI in MS patients; for example, 22.1% of MS patients in Canada (Viner, Patten, Berzins, Bulloch, & Fiest, 2014) and 29.4% in northwestern United States (Turner et al., 2006) had SI. Other studies have pointed to SI among MS patients in Brazil (Fragoso et al., 2010) and Saudi Arabia (Alamri & Al-Busaidi, 2016).

Social Support (SS) is "the number of social relationships an individual has (structural support) and the quality of the resources that these relationships provide (functional support)" (Helgeson, 2003). Individuals with few SS resources are more vulnerable to stressors and tend to suffer from physical and psychological health problems (Boscarino, 1995). People with SI reported less support from their family and friends (Endo et al., 2014). Also, lower social interaction patterns and lower perceived SS were significantly related to SI in older adults (Rowe, Conwell, Schulberg, & Bruce, 2006). SS was related to quality of life (Jaracz et al., 2010; Costa, Sá, & Calheiros, 2012), resiliency (Golzari Movaghar, Aslani, Mazdeh, 2015) and depression (Bambara, Turner, Williams, & Haselkorn, 2014; Suh, Weikert, Dlugonski, Sandroff, & Motl, 2012; Beckner, Howard, Vella, & Mohr 2010) in MS patients.

The literature shows that the social isolation is increased risk for suicide in neurologic illness (Arciniegas & Anderson, 2002) and lower SS has been recognized as a risk factors for suicide in epilepsy patients (Hećimović & Popović, 2014). Lower SS was associated with SI in MS patients (Turner, Williams, Bowen, Kivlahan, & Haselkorn, 2006). Also, live alone was significantly predicted the suicidal intent in these patients (Feinstein, 2002).

Time perspective (TP) is "a fundamental dimension in the construction of psychology that emerges from the cognitive processes that partitions the human experience into past, present and the future" (Zimbardo & Boyd, 1999). According to Lewin (1951) TP is "the totality of the individual's views of psychological future and psychological past existing at a given time." (p. 75, cited in Zimbardo & Boyd, 1999). Five dimensions of TP are Past Negative (PN) [a pessimistic and aversive attitude towards the past], Past Positive (PP) [positive construction of the past], Present Hedonistic (PH) [orientation towards enjoyment and pleasure in the present], Present Fatalistic (PF) [hopeless, nihilistic attitude towards life] and Future (F) [planning for and achievement of future goals] (Boniwell & Zimbardo, 2004). The literature shows that PH positively correlates with social connectivity (Zimbardo & Boyd, 2008); PN positively associates with neuroticism (Zhang et al., 2011), anxiety and depression (Zimbardo & Boyd, 1999) and negatively with happiness (Drake, Duncan, Sutherland, Abernethy, & Henry, 2008; Zhang, Howell, & Stolarski, 2012), social concordance (van Beek et al., 2010) and life satisfaction (Zhang et al., 2011; Zhang et al., 2012); PP positively associates with life satisfaction (Zhang et al., 2011; Zhang et al., 2012), social concordance (van Beek, Berghuis, Kerkhof, & Beekman 2010) and happiness (Drake et al., 2008; Zhang et al., 2012). The PF correlates positively with depression and anxiety and negatively with consideration of future outcomes (Zimbardo & Boyd, 1999) and social concordance (van Beek et al., 2010).

According to van Beek et al. (2010), NP and PF positively correlate to suicidality; but the correlation between PP and F with suicidality was negative. Future thinking (a component of future time perspective) moderates the impact of depressive symptoms on suicide preparation among high-risk students (Chin & Holden, 2013). Also, literature shows that people with severe SI significantly achieved higher scores on NP and PF than people without SI and people with severe SI compared to moderate obtained meaningfully lower scores on F and PH (Laghi, Baiocco, D'Alessio, & Gurrieri, 2009). Ariapooran and Amirimanesh (2014) indicated that PP, PH and F were negatively and PN and PF positively correlated to SI in female students with love failures.

This study was conducted to determine the prevalence of SI and the relationship between SS, TP and SI in Iranian patients with MS. Research about the prevalence of SI and variables related to SI of patients with MS is essential. Also, research has given insufficient attention to the role of TP in SI of MS patients; furthermore, predictive role of TP in SI can play an important role in highlighting the trainings based on TP for patients with

MS who suffer from SI. According to somatic and psychological symptoms of MS, SS systems in patients with MS are very important and its predictive role on SI can help researchers, psychologists, counselors and families to provide and improve the quality of SS systems in these patients.

## 2. Materials and Methods

### 2.1 Procedures

A correlational descriptive survey was used to investigate the prevalence of SI in patients with MS and the relationships of SS, TP and SI. In the present study, SS, TP were considered as predictive variables and the SI as criterion variable. This research lasted for four months starting from the beginning of 2015 in Nahavand and Malayer, Iran.

The population of the current study consisted of all female and male patients with MS in Nahavand and Malayer, Iran (N=88). We selected all patients as sample by convenience sampling method. Inclusion criteria were: having a medical file, age up 20, high school educational level, no history of hospitalization due to psychological problems, and no menstrual cycle in females. Some of patients were invited by phone calling to hospitals that they had medical files in them. The others participated in research in clinics of neurologists in Nahavand and Malayer. Nine patients were excluded from the sample. Three of them did not fill out the scales completely and 6 patients did not refer to hospitals for filling the questionnaires. Finally, our study sample consisted of 79 (55.7% female and 44.3% male) patients with MS. 64.6% of participants were employed and 35.4% unemployed; 75.9% were married and 24.1% single; 38.0% of individuals were under diploma, 40.5% diploma, 5% undergraduate and 16.5% had college education. Their mean age was 37.38 years old (SD=9.44) and the mean for duration of MS disease was 6.09 years (SD=4.69). The participants signed the informed consent sheets, and filled out the scales; they spent approximately 35-45 min filling out the scales.

In this study, the following instruments were used for data collection:

**1). Beck Scale for Suicidal Ideation:** Beck's Scale for SI measures the intensity of SI with 19 items; each item rated from 0 to 2. Total scores on the BSS can thus range from 0 to 38 points, with higher scores indicating greater levels of suicidality (Beck AT, Steer, 1991). In some previous studies on adult suicidality a score of 6 or more has been used as a cutoff threshold for clinically significant SI (e.g. Sokero et al., 2003). Anisi et al., performed semantic, technical, and criterion equivalence by translating and back translating the instrument into Persian and Concurrent validity of the scale with the General Health Questionnaire has been reported 0.76 And reliability using Cronbach's alpha is calculated 0.95 (Anisi, Fathie Ashtiani, Salimi, & Ahmadinodeh, 2005). In the present study the Cronbach alpha values for this scale was 0.82.

**2). Multidimensional Scale of Perceived Social Support (MSPSS):** The MSPSS is a 12-item self-report screening instrument designed to perceive SS from three sources of individuals' social lives: family, friends, and significant others (Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS makes use of a 7-point Likert-type scale for its measurements, with ratings from "1=very strongly disagree" to "7=very strongly agree." The range of possible scores is 12 to 84. The Cronbach's coefficient alpha values were 0.91, 0.87, and 0.85 for significant other, family, and friends' subscales, respectively (Zimet et al., 1988). After translation of this scale by ariapooran (2013), has been recognized three dimensional scales (SS from family, friends and any significant person to them); the range of the Loadings was 0.71 to 0.85. The literature shows that MSPSS was negatively related to Social-Emotional Loneliness Scale for Adults-Short form of Ditommaso and Spinner (Salimi, Javkar, & Nikpoor, 2008). The Cronbach alpha values in Ariapooran (2013) study, were 0.91, 0.83 and 0.86 for the significant other, family and friend's subscales, respectively. In the present study the Cronbach alpha values for all items was 0.88.

**3). Zimbardo's Time Perspective Inventory (ZTPI):** ZTPI is composed of 56 items. People indicate on a 5-point Likert scale ("1=**very untrue of me**" to "7=**very true of me**") to what extend a statement applies to them. The ZTPI consist of five factors: PN (10 items), PH (15 items), PP (9 items), PF (9 items) and F (13 items). The Cronbach alpha values for these five factors were 0.82, 0.79, 0.80, 0.74 and 0.77, respectively. Psychometric properties of the five ZTPI scales were satisfactory (Cronbach's alphas ranging from 0.710 to 0.845) in university students of Greek (Anagnostopoulos & Griva, 2012). The Cronbach alpha values for all Items was 0.74 in Iran (Ariapooran, 2014). In the present study the Cronbach alpha values for PN, PH, PP, PF and F were 0.73, 0.81, 0.79, 0.70 and 0.76, respectively.

### 2.2 Data Analysis

All analyses were performed using SPSS, version 22. In this study, the SS and TP were specified as predictive variables and SI as the criterion one. The Pearson correlation coefficient was conducted to examine the

association between SS, TP and SI. Regression analysis with Enter method was used for predicting the SI by SS and TP. P values of 0.05 or less were interpreted as statistically significant.

## 3. Results

The prevalence of the SI in patients with MS is presented in Table 1. In the present study, self-reported scale of SI was used as instrument for measuring the rate of SI. According to previous studies a score of 6 or more in Beck Scale for SI has been used as a cutoff threshold for clinically significant SI (e.g. Sokero et al., 2003); in the present study, we used this cutoff threshold for selecting patients who are at risk of SI. Therefore 30.4% of the patients had clinically SI in the present study; their scores were higher than 6 in SI scale. The mean for duration of disease was 5.16 years (SD=6.05).

Table 1. Prevalence of SI in patients with MS

| Patients with MS | N | % |
|---|---|---|
| Patients with scores higher than 6 in SI scale | 24 | 30.3% |
| Patients with scores lower than 6 in SI scale | 55 | 69.7% |
| All patients | 79 | 100% |

The results of Pierson correlation are displayed in Table 2. Results indicated that SS (r=-0.398; P=0.001), SS from family (r=-0.25; P=0.026), friends (r=-0.262; P=0.02) and significant other (r=-0.278; P=0.01) negatively correlated to SI in patients with MS. Also, PP (r=-0.382; P=0.001) and F (r=-0.309; P=0.006) negatively and PN (r=0.30; P=0.01) positively correlated to SI. But the relationship between PH and PF with SI wasn't meaningful.

Table 2. Mean (M), Standard Deviation (SD) of variables and summary of Pierson correlations of TP, SS and SI scores

| Prediction Variables | M(SD) | Criterion Variable (SI) | |
|---|---|---|---|
| | | r | Sig.(p) |
| SS from family | 13.53(2.60) | -0.25 | 0.026 |
| SS from friends | 13.04(1.79) | -0.262 | 0.02 |
| SS from significant other | 13.45(2.29) | -0.278 | 0.013 |
| SS | 40.02(4.41) | -0.398 | 0.001 |
| PN | 12.49(1.98) | 0.30 | 0.007 |
| PP | 29.11(5.58) | -0.382 | 0.001 |
| PH | 21.81(7.89) | -0.072 | 0.527 |
| PF | 20.72(7.47) | 0.035 | 0.761 |
| F | 35.60(7.09) | -0.309 | 0.006 |
| SI | 5.16(6.05) | - | - |

The results of regression are provided in Table 3. Multiple regression analysis by Enter method was used to test the role of SS and TP dimensions in predicting the scores of SI in patients with MS. The regression model was significant (F=9.466, P=0.001). According to Adjusted R Square, the model accounts for 32% of variance in SI. It was found that SS from significant others (β=-0.229, P=0.02) and PP (β=0.354, P=0.001) significantly predicted SI scores.

Table 3. Summary of regression analysis with enter method for SI scores by TP and SS dimensions

| Prediction variables | B | SE | β | t | Sig.(p) |
|---|---|---|---|---|---|
| SS from family | -0.424 | 0.219 | -0.184 | -1.936 | 0.057 |
| SS from friends | -0.640 | 0.335 | -0.190 | -1.909 | 0.060 |
| SS from significant other | -0.601 | 0.258 | -0.229 | -2.323 | 0.023 |
| PN | 0.516 | 0.336 | 0.170 | 1.536 | 0.129 |
| PP | -0.381 | 0.104 | -0.354 | -3.657 | 0.001 |
| F | -0.082 | 0.094 | -0.097 | -0.881 | 0.381 |

## 4. Discussion

The present study confirmed the prevalence of the SI and the role of TP and the relationship between SS, TP and SI in Iranian patients with MS. According to the cut-off point above 6 for SI scale, the data indicated that 30.3% of patients suffered from clinically significant SI. Previous researches have indicated that 15% (Dickstein et al., 2015), 22.1% (Viner et al., 2014) and 29.4% (Turner et al., 2006) of patients with MS suffered from SI.

Patients with MS suffer from many physical and psychological problems such as visual problems, debility, imbalance, movement disorders, bladder or bowel dysfunction (Miler et al., 2012), fatigue (Bergamaschi et al., 1997; Strober& Arnett, 2005), depression (Minden & Schiffer, 1990; Sadovnik et al., 1996; Patten et al., 2003; Solari et al., 2004; Dahl et al., 2009; Kang et l, 2010; Dehghan et al., 2013; Sarisoy et al., 2013), and sleep disturbance (Clark et al., 1992; Lobentanz et al., 2004; Razazian et al., 2014). Accordingly, these problems can lead to concerns about health in them and these concerns are likely to cause negative thoughts such as suicide thoughts. In other words, MS patients' elevated worry was associated with fatigue, sleep disturbance, problem-solving deficits, pain, and disability status (Bruce JM, Arnett P, 2009) and this worry can excite high risk thoughts especially SI in them.

In our study, the rate of SI in MS patients is somewhat greater than previous researches. The reason is likely that we used self-reported scale for assessing the SI and answers to the questionnaire accompanied with bias in participants.

According to the results of the study, there is an inverse relationship between SS (from family, friends and significant other) and SI in people with MS; regression analysis showed that among dimensions of SS, only the negative role of SS from significant other was confirmed. Similar research has shown that lower SS was associated with SI (Turner et al., 2006) and live alone was significantly predicted the suicidal intent in MS patients (Feinstein, 2002). Also, research indicated that people who suffered from SI reported low SS from their family and friends (Endo et al., 2014; Rowe et al., 2006). Researchers have showed that a higher level of perceived SS was correlated to lower levels of SI (Ekramzadeh et al., 2012).

High SS creates opportunities for people to discuss about stressful life events and reduce the pressures caused by these events and help people to highlight the positive aspects of their life (Janoff-Bulman, 1999). Therefore, if patients with MS have the proper SS from family, friends and significant other, negative thoughts such as SI are probably reduced. Because, SS can decrease the feelings of loneliness and hopelessness, help the person recognize and evaluate stressors, and identify solutions to overcome stress (Orth-Gomer, 2000). In other words, researchers have also found that poor perceived SS may lead to depression (Meeks, Vahia, Lavretsky, Kulkarni, & Jeste, 2011) and depression is one of the risk factor of SI in patients with MS (Turner et al., 2006). The reason is that depression can decrease the functional level of patients, thereby increasing their level of disability (Feinstein, 2004). Therefore, decreasing in functional level, disability and poor levels of SS can likely led to SI in patient with MS.

In regression model, SS form significant other was the strongest predictor among SS dimensions for SI in patients with MS. In this regard, we can say that the most important people in life including physician, nurse and significant others can play important role in providing emotional and tangible support for patients with MS. Therefore, in our study, these individuals can have a major contribution in decreasing the SI in them.

The results indicated that PP and F negatively and PN positively correlated to SI in patients with MS. But there wasn't meaningful relationship between PH and PF with SI. According to regression analysis, among TP dimensions only the negative role of PP in predicting the SI was approved. Prior to this study, the relationship between TP and its dimensions with SI in patients with MS had not received necessary attention. But, among other samples the positive correlations between PN and PF and negative associations between PP and F with suicidality were approved (Beek & Steer, 2010). Also, these findings are consistent with previous findings (Laghi et al., 2009; Ariapooran and Amirimanesh, 2014). In Laghi et al. (2009) study, high school students with severe SI achieved higher scores on NP and FP and in Ariapooran and Amirimanesh (2014) research, the meaningful correlation between TP dimensions and SI in female students with love breakdown has been confirmed.

A person with a PP orientation can positively reassess the situation and accept responsibility for an existing problem (Bolotova & Hachaturova, 2013); he/she used cognitive and behavioral coping strategies (Bolotova & Hachaturova, 2013). People oriented to the F are disposed to think about and control all aspects of a difficult situation (Brissette & colleagues, 2002). Therefore, MS patients with PP and F can probably select positive coping strategies in dealing with disabilities caused by their disease, and these copings can help them to reduce their SI. But, people with PN tend to blame themselves for their failures and to deny their achievements (Laghi et

al., 2009); they used emotional coping strategies (Bolotova & Hachaturova, 2013). Hence, MS patients with this PN orientation may ignore positive aspects of life and negative thoughts (such as SI) arise in them. In other words, it can be said that perhaps one of the reasons for SI in MS patients with PN orientation, is using the emotional coping strategies among them.

In regression model, among the dimensions of TP the PP was the strongest predictor of SI in patients with MS. This dimension contains a warm, sentimental, nostalgic, and positive construction of the past. It was positively correlated with self-esteem (Zimbardo & Boyd, 1999), responsibility for health, and spirituality (Hamilton et al., 2003), and was negatively correlated to depression, and anxiety (Zimbardo & Boyd, 1999). Therefore, for patients with MS who are suffering from somatic and psychological problems, PP orientation can increase the responsibility toward somatic and psychological health and probably result in decreasing the rate of SI.

The important limitations of the current study were sample size, using the self-reported questionnaires and lack of a control group. Our sample size was limited to Nahavand and Malayer, Iran. This suggests that the results should be interpreted with caution and further research with different and large samples is required. We used Beck Scale for SI for the prevalence of the SI in people with MS disease. Thus, the diagnostic interview to assess the prevalence of SI is important in future studies and the results should be interpreted with caution. In addition, we didn't use the control group (healthy people) for comparing the rate of SI. It is suggested that the control group should be used in future research for comparing the rate of SI in MS patients and healthy people.

The results support the high rate of SI and the relationship between perceived SS and TP (NP, PP and F dimension) with SI in patients with MS in Nahavand and Malayer, Iran. It is suggested that attention to high rate of SI in Iranian patients with MS is very important for researchers, psychologists and counselors. Also, using the TP-based treatments for decreasing the rate of SI in patients with MS is suggested. Also, it is necessary to develop support systems for MS patients who are at risk of SI.

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# Economic Aspects of Rice Combine Harvesting Service for Farmer in Northeast Thailand

Supaporn Poungchompu[1] & Supawadee Chantanop[2]

[1] Department of Agricultural Economics, Faculty of Agriculture, Khon Kaen University, Khon Kaen, Thailand

[2] Faculty of Economics, Northeast University, Khon Kaen, Thailand

Correspondence: Supaporn Poungchompu, Department of Agricultural Economics, Faculty of Agriculture, Khon Kaen University, Khon Kaen, 40002, Thailand. Tel: 66-43-364-638. E-mail: psuppap@kku.ac.th

**Abstract**

Rice combine harvesting is popular among farmers due to a labor shortage and high wage labor. This condition impacts on the rapid expansion of business of rice combine harvester service. The objective of this research was to evaluate the service characteristics of rice combine harvester for farmer and factor affecting the use of combine harvester. Primary data was collected purposively 85 operators and randomly 729 farmers with statistic analysis. Results of the study indicated that the harvesting cost of 798.48 THB/rai for using a combine harvester in wet season is smaller than the cost of manual harvesting of 1,542.17 THB/rai. The important factors affecting the use of combine harvest were farmers' education, farm size and family size. Net return from this service business is over 250 THB/rai or over 35 % of total profit that it is economic benefit for operators. But, the operators faced high cost of fuel and of repair and maintenance cost due to unskilled operation. Thus, the government should establish a network of harvester service operators as well as encourage more maintenance training for local operator in order to high utilization efficiency in rice combine harvester. Also, the government should support farmer to expand their farm sizes by the establishment of a group farmer to easy access the use of rice combine harvester and should give wider farmer awareness education for higher adoption of combine harvester use.

**Keywords:** combine harvester, wet and dry season, service business, manual harvesting

## 1. Introduction

In Thailand, mechanization has played a key role in agricultural production, especially for rice combine harvesters due to labor shortages in rice harvesting. The combine harvester is economic and less labor machinery (Tahir et al., 2003) compared to manual harvesting that is laborious and costly (Hossain, 2015). The number of rice combine harvesters showed a significant increase from 6,780 machines in 2003 to 1,582,613 machines in 2013 (National Statistic, 2015) that more than 99% of rice combine harvesters are operated on custom-hire service basis (Thepent, 2014). Similarly, the numbers of combine harvesters in Viet Nam, Banglades and Sri Lanka have shown an increasing trend because of a high outflow of rural labor to urban areas leading to be a labor scarcity in rice harvesting period (Hossain et al., 2015; Shin Norinsha Co., 1971; Troung, 2010). For Northeast area, rice crop is one of the most important foods and economic crop covering approximately 38.9 million rais, or around 53.7% of agricultural area in the region and rice made up 42.3% of agricultural products from the Northeast area in 2014. In the same period, it was found that approximately 50.9% of rice production in the Northeast area was wet-season rice (over 80% of rice products in the Northeast area as jasmine rice) (Thai Rice Exporters Association, 2015). Rice harvesting in area is a significant issue for farmers because of labor scarcity and high labor costs leading to increase production costs during at the time of rice harvesting. In these regards, the number of agricultural labor has declined from 57.71% in 2001 to 36.30% in 2011 (Office of the National Economic and Social Development Board, 2014) because of the migration of agricultural labor to industrial sector and entering aging society; as a result, rice combine harvester services are popular among farmers. Rice combine harvester services have played an important role for harvesting wet-dry season rice in the Northeast area from rice harvester operators in local areas and other provinces. Some service operators from other regions would provide rice combine harvester services across the region, especially for farmers in the Northeast area because of the low competition and limited number of rice combine harvesters there (Chinsuwan, 2008). The use of rice combine

harvester helps to reduce the cost of labor in the process of harvesting and threshing significantly (Krishanaseranee, 1992; Hossain et al., 2015), and to reduce the loss of productivity if harvested at the right time (Chinsuwan et al., 1997). Based on the preliminary survey, recently, over 70% of farmers used the rice combine harvester in their paddy field in order to reduce cost and timely harvesting. This shows that famers more adopt the use of rice combine harvester. Regarding, the adoption of technology in agriculture relies on socioeconomic characteristics and personal factors including age, years of education and size of the farm that make farmers' decision to use a technology (Rogers, 1995; Ouma et al., 2006; Feder et al., 1985). Moreover, the number of rice combine harvester has increased resulting in the high growth of business of rice combine harvester services. The harvesting operation depended on a custom-hire service basis (Tomohiro & Masayuku, 2002). Rice combine harvesters for service in surrounding villages, municipalities, and districts in rural Northeast area Thailand are small machines which can process an average of 10-30 rais per day depending on the condition of the rice, while rice combine harvesters from other areas such as Nakhon Sawan, Uthai Thani, Phichit, and Suphan Buri province are bigger and can process up to 40-50 rais per day. Therefore, it can be deducted that the business of rice combine harvester services can give high income for farmers who have been the operator of a combine harvester with high rate service charge. In the last year, the rice combine harvester's owner got, which was 800 THB per rai for wet-season rice and around 500-550 THB per rai for dry-season rice. The price difference is due to the level of difficulty in harvesting and the condition of rice. Normally, wet-season rice is more expensive because the rice is tall and difficult to harvest. In other words, it can be concluded that the service business of rice combine harvester has positive impacts to economic of operators in this areas.

Therefore, there are little researches which have been conducted on this issue in Northeast area Thailand. Thus, this study focuses on the service of rice combine harvesters for farmers that it is a challenging issue in the economic aspect and factor affecting farmers' use rice combine harvester. These results will be important for policy makers, extension officers and related agents to improve this business for farmers' benefits and use.

## 2. Method

### 2.1 Study Area and Sampling Procedure

The study areas were all 14 provinces in Northeast area Thailand. The data used were collected in two periods in wet season (November – December 2014) and dry season (April-May 2015) through a questionnaire distributed to smallholding farmers. The operators of rice combine harvester service and farmers were identified and selected through the multistage sampling technique. In the first stage, sub-district of each province in 14 provinces where the rice fields have been harvested through rice combine harvester services and where farmers harvested rice fields by labor was purposively selected on the advice of each Provincial Agricultural Officer in all 14 provinces. In the second stage, a village of each sub-district in all 14 sub-districts was purposively chosen due to a large number of operators who service rice harvesting in the rice field by rice combine harvester and a number of farmers who have harvested by either combine harvester or manual harvesting in wet season. In case of dry season, a village of each sub-district in 7 sub-districts where grew a lot of rice was chosen. In the final stage, four operators in wet season and three operators in dry season were randomly selected from each village that totaled 85 operators. Also, farmers who use a manual harvesting have been interviewed from 15-16 farmers of each village that total 229 farmers only in wet season. Moreover, farmers who use a combine harvester in rice harvesting have been randomly selected 14-15 farmers of each village in wet season that totaled 326 farmers and in dry season 16-17 farmers of each village were randomly sampled that totaled 174 farmers. Thus, there was a total sample size of 85 operators and of 729 farmers that total 814 farmers. Data analysis was done by using simple statistical analysis and t-test analysis.

In this study, in order to determine the factors affecting farmers' use rice combine harvesting the logit model was used and the model is specified as:

$$Y = ln(\frac{P_i}{1 - P_i}) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon \tag{1}$$

Where

$Y$ = dependent variable (1= using combine harvester, 0= not using combine harvester)

$X_1$ = the farmer's gender

$X_2$ = the farmer's age

$X_3$ = education level

$X_4$ = family size

$X_5$ = farm size

$\varepsilon$ = the disturbance term

Positive coefficient of the independent variable ($X_i$) indicated the increasing use of rice combine harvester technology including male, older farmers, higher education levels and larger farm sizes while larger family size will have a negative impact on the adoption of the technology.

## 3. Results

### 3.1 The Characteristics of Rice Combine Harvester Service

In the Northeast area, rice combine harvester service can be divided into two groups: individual operators and group operators. First, individual operators of rice combine harvester services can be classified into two types (1) Rice combine harvester service operator from areas outside the Northeast area such as Uthai Thani, Prachin Buri, Ang Thong and Suphan Buri; the number of these operators has decreased to around 10% during the production year 2014/2015. This is due to the government policy of controlling service rates which has made transportation costs unviable for removing rice combine harvesting machinery in this area. In order to provide removing rice combine harvesters the brokers are needed to assist in gathering a large number of agricultural areas of rice harvesting for the operators because there are only 30-35 days of harvest for wet-season rice each year. The brokers play an essential role in this business, providing information for the decision making of operators to remote rice combine harvesters. Moreover, the role of the brokers affects the income of service providers from areas outside the Northeast as shown in Figure 1.
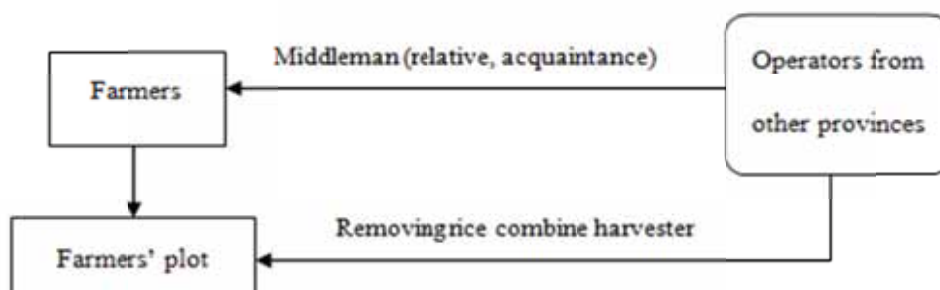


Figure 1. Service processes of operators from other provinces

(2) Rice combine harvester service operators from local areas: they do not have to tout businesses since the demand for this service has seen as increase in this area. However, in the beginning of harvesting season, these operators need to go to rice farms themselves to accumulate farmers' plots that need rice combine harvester services and also use the strategy of word of mouth to spread the news about their service among farmers. Service operators should thus more efficiently manage their harvesting areas in order to reduce costs of rice combine harvester transportation since the cost of fuel in the 2014/2015 production period was high. Also, these operators have to compete of with those from nearby areas (villages), nearby districts, and areas outside (provinces) the region. This competition is rather rare because local operators do not often cross each other's business lines unless farmers hire service operators from other areas to harvest their rice product. Moreover, the rice combine harvester operators' business depends on the farmer's demand for a rice combine harvester and their satisfaction toward the service operator. Farmers' satisfaction depends on the service given by each service operators and almost farmers find an operator who provides adequate service and then continually hires the same operator. There are no middlemen in these cases, but farmers directly and independently contact service operators. Second, rice combine harvester services community group means that rice combine harvester machinery is supported by government sectors in order to reduce costs for farmers of the rice community group in case of labor shortages in the harvesting process. The establishment of the rice community group was begun by gathering shares from farmers interested in investing and living surrounding community, each share costing 100 THB. A member cannot hold more than 20 shares (share restrictions are set by the group). As for now, there are 30 group members. This committee group acts as a broker in the rice combine harvester service business for members and non-members and the service rate is fixed by the government's policy. The driving of the combine harvester is managed by the committee and member group that must be transparent and verifiable. Dividends are given to members according to the net balance after expenditure in each harvesting period.

*3.2 Hiring Mechanisms and Conditions of Rice Combine Harvester Service*

There are two types of hiring mechanisms which are as follows: (1) hiring directly from service operators and (2) hiring through a broker. First, hiring directly from a service operator takes local operator gathering farmers who require rice combine harvester services in the beginning of the harvesting season (October) and spread the news about the services by word-of-mouth. Farmers contact local operators directly in order to secure their place on the queue. Farmers normally contact a local operator same as previous year because they have hired them previously and have been satisfied with the service. In some cases, when harvest is urgently needed, farmers choose new operators who can immediately respond to their needs. Generally, most local operators can harvest the rice at least 10-15 rais (1 rai = 6.25 ha) per day with their small or medium sized harvester machinery that they must harvest rice in time because they face competition with large harvesters sized operators who live outside village that can harvest up to 40-60 rais per day. Second, hiring through a broker is different from the first type because there is a negotiation between farmers and brokers. The brokers have played a role of gathering the rice fields and managing the queue for the service operators. Medium to large sized harvester can harvest between 20 and 40 rais per day, depending on the rice stalks in each field. The brokers have to be able to gather harvesting areas of at least 15-20 rais per day. Specialized drivers, who can take good care of the harvesters, harvest quickly and get high quality rice product, are also needed. For this type of hiring, the commission rates of middlemen fall under two conditions which are as follows: (1) If the brokers are able to collect the rice fields needing harvest according to the agreement, they will receive a commission of 30 THB per rai, with no other responsibilities, such as providing accommodation or food for the operator. (2) If the middleman charged with both collecting the rice fields to be harvested and preparing accommodation, food, and preparation of the service queue for the farmer and collection then the service rate will be 50 THB per rai.

*3.3 Characteristics of Rice Combine Harvester Service Operators*

Approximately 95.7% of service operators are local rice combine harvester service operators. Since labor costs were high, most operators decided to buy rice combine harvester machinery for household usage and for providing services. 4.3% of service operators were from other areas, contracting and providing service through relatives and brokers. They have an experience of service business of an average of 5.2 years. It was also shown that 50% of service operators were directly contracted by farmers in order to request service in the area while another 25% and 25% were service operators who contracted farmers though relatives or brokers and a village leader respectively. Around 25.8% of rice combine harvesters were small-sized harvester (500-800 kg.) that can harvest 14.1 rais/day. A 37.6% of mid-sized rice harvesters (1,200-1,500 kg.) can harvest 25.1 rais / day. The remaining was large-sized, with 2,800-3,000 kg. which can harvest up to 31.4 rais per day. The harvesting capability per year for all sizes in wet season is larger than in dry season (Table 1). It can be seen that the income from wet-season rice harvesting is higher than that for dry-season rice harvesting, since dry-season rice in the Northeast can only be grown in certain areas where water supply is sufficient. Moreover, the average number of drivers hired per harvesting period was around 1-2 people. The average number of additional laborers used was two laborers, whose main duties were rice filtering and binding rice sacks. Laborers were also used to maintain the machine, repair damaged parts, inspecting the rice farm together with farmers, and clearing the way for harvesting. Service operators harvested from October to December that the period with the highest demand was November.

Table 1. Rice harvesting capability sizes of rice combine harvesters

| Item | Small-sized combine harvester | Mid-sized combine harvester | Large-sized combine harvester |
|---|---|---|---|
| Working capability (rai/day) | 14.1 | 25.1 | 31.4 |
| Working capability (rai/year) | 636.6 | 860.7 | 1,028.9 |
| Harvesting in wet season rice (rai/year) | 597.4 | 578.3 | 689.4 |
| Harvesting in dry season rice (rai/year) | 39.2 | 282.4 | 339.5 |

*3.4 Service Rates of Rice Combine Harvesters during the 2014/2015 Production Period*

Generally, the service rate for this harvesting period would be lower than the service charge set by the rice combine harvester service controlling policy. However, in some case it was found that the rate was higher than the service charge estimated and set by the government because bent rice stalks are difficult to harvest and

farmers had to pay higher rates according to the agreement made by the farmer and service operators. In some case where the rate was higher than the charge estimate, it was due to the agreement between service operators and farmers which allowed the service operators to be able to quickly harvest their rice on time. The average service price of bent rice stalks was 714.51 THB per rai and for standing rice stalks was 630.64 THB per rai. The average service price of dry-season rice was 566.66 THB per rai and of wet-season rice was 542.85 THB per rai.

*3.5 Harvesting Service Costs of the Rice Combine Harvesting Operators during the 2014/2015 Production Period*

The estimated cost is over 360 THB/rai for all sizes that a large size combine harvester shows the smallest portion in both wet and dry season. It was found that the highest cost variable for all sizes of harvesters was fuel (Diesel) that of total variable cost it shows around 52.3%, 40.13% and 35.53% for small size, medium size and big size machinery respectively. The labor cost was the second highest cost variable for small and medium harvesters and the maintenance cost was the second highest cost variable for big harvesters. The net benefit is over 230 THB/rai for all size; in other words, the operators can obtain the net benefit over 35% of total benefit. Thus, it can be concluded that the service business of combine harvester is economical impact for operators (Table 2).

Table 2. Harvesting service cost of the rice combine harvesting operator during production year 2014/15

| Items | Small-sized combine harvester | Mid-sized combine* harvester | Large-sized combine harvester |
|---|---|---|---|
| Variable cost (THB) | 98,267.09 | 135,499.04 | 198,417.65 |
| Repair and maintenance | 13,446.33 | 39,436.84 | 40,400.00 |
| Fuel (Diesel) for harvesters | 51,410.00 | 54,378.95 | 70,501.35 |
| Commission brokers including accommodation and food | - | - | 4,625.00 |
| Commission brokers excluding accommodation and food | 2,541.67 | - | 1,925.00 |
| Maintenance for handler | 3,516.67 | 3,789.47 | 9,376.20 |
| Fuel for handler | 1,225.00 | 4,033.26 | 8,222.60 |
| Wage labor including driver | 11,889.92 | 19,134.21 | 24,287.50 |
| Food | 9,883.33 | 8,889.47 | 12,055.00 |
| Wage of extra workers | 4,354.17 | 5,836.84 | 27,025.00 |
| Fixed variable (THB) | 170,378.23 | 191,070.66 | 178,391.99 |
| Depreciation of combine harvesters | 126,757.93 | 110,649.12 | 133,512.47 |
| Depreciation handlers | 20,819.47 | 27,320.65 | 29,050.02 |
| Interest rate | 16,166.67 | 45,693.00 | 7,600.00 |
| Taxes and insurance | 4,190.83 | 3,523.68 | 1,480.00 |
| The lubricant | 2,443.33 | 3,884.21 | 6,749.50 |
| Total costs (THB/year) | 268,645.32 | 326,569.70 | 376,809.64 |
| Average total cost (THB/rai) | 422.20 | 379.42 | 366.23 |
| Average total profit (THB/rai) | 655.97 | 619.86 | 620.38 |
| Net profit (THB/rai) | 233.77 | 240.43 | 254.16 |

Note * most are secondhand machinery

*3.6 Comparison of Rice Harvesting Cost between Labor-Intensive Harvesting and Rice Combine Harvester Machine*

Manual harvesting is labor intensive. Farmers who choose to harvest in-season rice fields by labour have average area of rice cultivation were 14.89 rais with 284 kg/rai under the moisture of 15% that need to use an average of

0.55 rai/hr or consumed 3-4 days/household. From harvesting to threshing and moving the rice into the barn, the number of hours used per household per rice field is 22.94 hours or approximately 1.58 hours per rai. However, farmers who used combined harvesters have an average rice field of 19.09 rais with 383 kg/rai under the moisture of 18-21%. The combine harvesting operation took 1.5 days/household or 2 rais/hr with small machine. Moreover, the average of harvesting cost by manual harvesting shows 1,542.17 THB/rai while in case of rice combine harvester it costs 798.48 THB/rai for wet-season rice and 658.38 THB/rai for dry-season rice (Table 3 and 4). Thus, it confirmed that farmers who use manual harvesting paid significantly higher harvesting cost that farmers who use rice combine harvester (t = 6.363, p < 0.01) (Table 5).

Table 3. The cost of manual harvesting method

| Items | Amount (Baht/rai) | Percentage |
|---|---|---|
| Harvesting | 822.89 | 53.4 |
| Heaping in the field | 170.07 | 11.0 |
| Heaping at threshing plot | 128.20 | 8.3 |
| Threshing cost (Thresher) | 119.59 | 7.8 |
| Threshing and carrying to barn (Manual labor) | 72.34 | 4.7 |
| Winnowing and transport from farm to barn | 33.61 | 2.2 |
| Fuel for transporting labor to farm | 20.51 | 1.3 |
| Material cost | 11.93 | 0.8 |
| Food | 112.98 | 7.3 |
| Drinking | 50.05 | 3.2 |
| Total | 1,542.17 | 100 |

Table 4. The costs of rice combine harvesting method

| Items | Average cost for wet season rice (Baht/rai) | Percentage | Average cost for dry season rice (Baht/rai) | Percentage |
|---|---|---|---|---|
| Harvesting by rice combine harvester | 551.69 | 69.1 | 530.80 | 80.6 |
| Extra labor wage | 3.99 | 0.5 | 1.50 | 0.2 |
| Heaping at drying plot | 28.15 | 3.5 | 4.62 | 0.7 |
| Rice drying wage | 72.47 | 9.1 | 17.67 | 2.7 |
| Bagging wage | 44.75 | 5.6 | 5.80 | 0.9 |
| Labor wage for carrying rice to sell | 6.67 | 0.8 | 2.07 | 0.3 |
| Car service for carrying rice to sell | 30.41 | 3.8 | 90.27 | 13.7 |
| Fuel | 10.53 | 1.3 | 1.06 | 0.2 |
| Material cost | 14.92 | 1.9 | - | - |
| Food | 22.04 | 2.8 | 4.38 | 0.7 |
| Drink | 12.79 | 1.6 | 0.24 | 0.04 |
| Total | 798.48 | 100 | 658.38 | 100 |

Table 5. T-test of rice harvesting cost between manual harvesting and rice combine harvester

| T-test of harvesting cost | t-ratio | Df | Sig.(2-tailed) | Mean | Std. error difference |
|---|---|---|---|---|---|
| Manual harvesting | 6.363 | 352 | 0.000[***] | 403.36 | 63.392 |
| Rice combine harvesting | | | | | |

Note: [***] = significant at p < 0.01

In other words, the rice combine harvester can minimize the harvesting cost. However, although the rice combines harvester can save cost and is timely harvesting it has problem the grain loss in harvesting. Harvesting by rice combine harvester would lose approximately 1-2 sacks/ rai (25-30 kilograms per sack) of rice or around 6-8% compared to manual harvesting of 10-15 kg/rai or around 3-5% that fall into the fields. Moreover, the majority of farmers (58.1 percent) agreed that there was less contamination in the rice that had been harvested by labor. However, 38.3 percent of farmers commented that there was contamination in the in-season rice, and 60.3 percent said that there was contamination in double-cropped rice that had been harvested using combined harvesters. This was due to the fact that double-crop fields had been planted by sowing which resulted in a high probability of contamination by weeds or grass.

### 3.7 Factors Affecting Farmer's Use of Rice Combine Harvester

The important factors affecting farmers' use of rice combine harvester were farmers' education, family size and farm size. The regression model results explain that education and farm size are positive and significantly (at 1% level). Farmers with higher education were more likely to use a rice combine harvester those with lower education. Also, farmers with larger farms are more likely to use rice combine harvester compared with those with small farmers who devote to harvest in some part of their fields. However, family size is negative and significantly (at 1% level). This indicates that with increasing size of the family, the probability of farmers' adoption of rice combine harvester decreases. The large family size can make more labor to harvest rice in the field (Table 6).

Table 6. Factor affecting farmers' use of rice combine harvester

| Explanatory variable | β | SE | Sig. | Wald | Exp (β) |
|---|---|---|---|---|---|
| Constant | 1.627 | 0.566 | 0.004[***] | 8.270 | 5.091 |
| Sex | 0.167 | 0.175 | 0.341 | 0.908 | 1.181 |
| Age | 0.002 | 0.008 | 0.824 | 0.049 | 1.002 |
| Education level | 0.849 | 0.232 | 0.000[***] | 13.389 | 0.428 |
| Family size | -0.210 | 0.072 | 0.003[***] | 8.627 | 0.810 |
| Rice cultivated area | 0.027 | 0.007 | 0.000[***] | 14.619 | 1.027 |
| Chi-square | | | 36.671[***] | | |
| Overall cases collectly | | | 69.80 | | |
| Nagelkerke $R^2$ | | | 0.469 | | |
| Number of observation | | | 729 | | |

Note: [***] = significant at p < 0.01

### 3.8 Problems and Obstacles of Rice Combine Harvester Service Basis

There are a number of problems and obstacles in this type of business. Service operators are faced with the high cost of fuel (Diesel) and high labor costs for skilled laborers. Moreover, they are also faced with obstacles in terms of unsuitable farming areas. These problems and obstacles have affected their services as follows: 1) Service operators who provide rice combine harvester services have faced a lack of skilled labor to efficiently drive the harvesters, and improper operation of the combined harvester can result in damage or a break down. 2) The wages, which have increased according to the agreement between service receivers and operators, are not in accordance with the criteria announced by the government. 3) The small sizes of rice farms have made it difficult to drive the rice combine harvester. The rice fields are small, rending it difficult to turn the harvester. This is different from the lowlands in the central part of Thailand, where fields are large, easy for harvesting, and combined harvesters can be easily maneuvered. The small fields cause frequent break downs and damage to the combine harvesters and therefore, high repair costs as well. 4) Harvesters have come upon unexpected stub, which farmers neglected to inform service operators before harvesting. 5) Finally, the high cost of replacement parts and longer time. When equipment has broken, it has spent more money and taken time to repair because of a lack of proficient local mechanics.

*3.9 Approach of Development of Rice Combine Harvester Service Basis in Northeast*

The development of the combined harvester service business in the Northeastern region of Thailand is considered essential because its business is currently autonomous and non-systematic, and there is a high degree of competition. If there were systematic guidelines, aimed towards developing a combined harvester service business that could reach out to the farmers in all of the rice field areas, strength and sustainability for the combined harvester service business could, therefore, be created as shown in the development system (Figure 2). A system has been established by creating a network of rice harvester contractors at the Northeastern regional level that consists of combined harvester contractors on provincial, district, and sub-district levels. The purposes of the system are as follows: 1) to compile data on harvesting areas in the area, 2) to carry out the timely harvesting plans, 3) to provide zoning for the combined harvester operators in each area, and 4) to establish harvesting queues, as well as service rates. In order to be clear about which operators conduct business in which areas, operators in the Northeastern region will need to register and set up groups within each province, district, and sub-district.
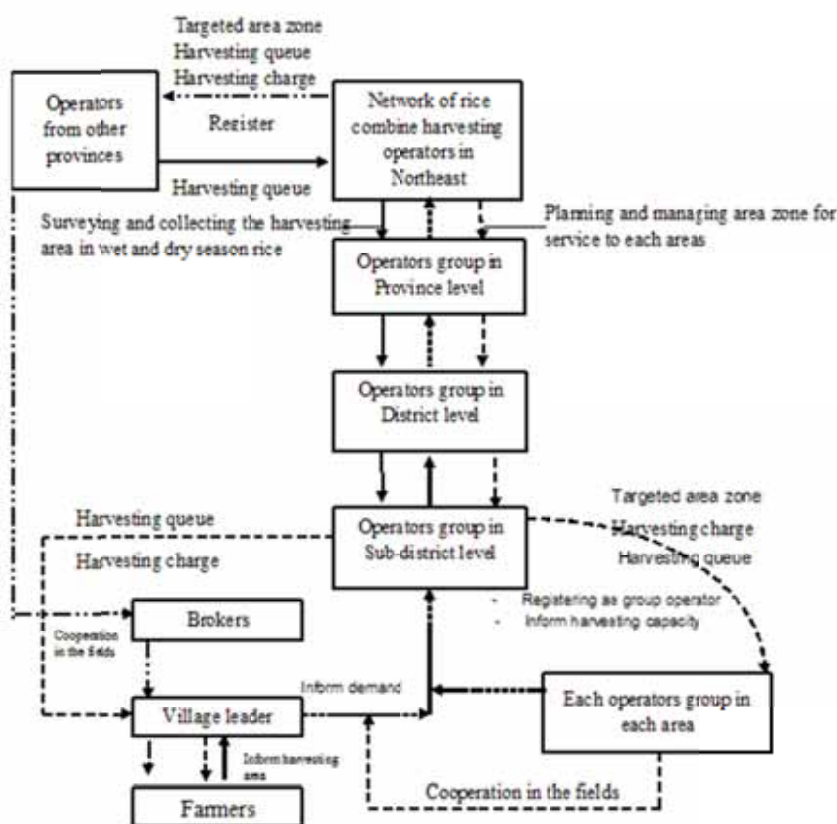


Figure 2. Approach of service business development of rice combine harvester in Northeast Thailand

In order to increase competition, the government should support marketing development for the combined harvester service. This may be accomplished by creating mid-term and long-term credit measures and by registering combined harvester operators in order to create networks. In addition, to set up regional repair and maintenance centers for combine harvesters, there should be support in the form of loans for the private sector. This would reduce repair and maintenance costs for the operators and would allow the operators to immediately use the combined harvesters that had been well maintained, without having to wait for the company representative to come for the repairs. Furthermore, the government should promote operator training on combined harvester repair and maintenance. Also, the advice should be given on suitable engine speed level that should be used while harvesting.

## 4. Discussion

Based on the result, almost farmers in Northeast area Thailand used the services of rice combine harvester that

the important factors of combine harvester adoption are higher education, larger farm size and smaller family size accordance with the finding of Feder et al. (1985), Mohammed et al. (2000), Truong (2008) and Tiamiyu (2009). This result has given rise to increase the trend of rice combine harvester service business in wet and dry season. This businesses need investment capital that most operators have a revolving fund within their businesses and they also tend to buy either a new rice combine harvester on credit or a secondhand rice combine harvester. The net income for operator of combine harvester service is over 35% for all sized rice combine harvester. It is important to point out that the service charge of combine harvester in wet season more than one in dry season around 20% due to soft-mudded rice fields making harvest difficulty. Regarding, the combine harvester can reduce the labor requirement while manual harvesting is labor intensive like the study of Hossain et al. (2015), Chinsuwan (2001) and Krishnasreni and Kiatwat (1998). In other words, the harvest cost of harvesting for rice combine harvester is lower than manual harvesting consistent with EI-Haddad et al. (1995) and Veerangouda et al. (2010). Thus, the cost combine harvesting can be minimized leading to higher net benefit and lower cost compared to manual harvesting associated with EI-Haddad et al. (1995), Mohammed (2000) and Praweenwongwuthi et al. (2010). However, the grain loss still has occurred around 6-8% in using combined harvesters that farmers are worried about hastening the combined harvesters resulting in grain losses. This result is in accordance with the study from Kittiya et al. (1990) and Bala et al. (2010), where it was found that the average loss from using combined harvesters in Thailand is 3.63% while it is an average of 6.25 % of losses (Chinsuwan et al., 2001). From the study of Manthamkan et al. (1992) and Kamel (1999), the speed in using the harvester also has an impact on loss. If slow (0.469-0.482 metres per second), grain loss will be 3.75-5.96%. If fast (0.787-0.807 metres per second), grain loss will be 4.85-8.00%. From these viewpoints, it can be concluded that rice combine harvesting is a higher net income and lower cost compared to labor harvesting.

## 5. Conclusion

The important factors affecting farmers' use rice harvester have included farmer education, farm size and family size. The farmers with higher education, farm size and smaller family size factors affecting in using rice harvesting. Moreover, the service business of rice combine harvester gives a higher benefit for operators in economic impact. This business has shown an increasing trend due to a high demand of farmers who adopt a rice combine harvester to harvest rice fields due to less loss and cost, timely harvesting. However, operators of combined harvesters face the problem of lack of labor to efficiently drive the harvesters, and improper operation of the combined harvester can result in damage or a break down. Operators face rising fuel costs and the small fields that cause frequent break downs and damage to the combine harvesters and therefore, high repair costs as well resulting in their income. Thus, the government should prepare low interest rate of loan money for old and new operators and encourage more training of maintenance machinery for local operator in order to high utilization efficiency in rice combine harvester as well as the establishment of local maintenance center of rice combine harvester. Additionally, a network of Northeastern combined harvester service operators should be formed to create approaches to promote the business in the Northeastern region, to develop organizational strength, and to increase the sustainability of the business in the Northeastern region.

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# Evaluation of Hajj Instrument (HAJI) Psychometric Properties Using Rasch Measurement

Muhammad Iqbal Tariq Idris[1], Abdul Hafidz Omar[2], Dayang Hjh Tiawa Awang Hj Hamid[1] & Fahmi Bahri Sulaiman[1]

[1] Sports Innovation & Technology Center (SITC), Universiti Teknologi Malaysia, Johor, Malaysia

[2] Institute of Human Centered Engineering (IHCE), Universiti Teknologi Malaysia, Johor, Malaysia

Correspondence: Muhammad Iqbal Tariq Idris, Sports Innovation & Technology Center, Faculty Biosciences and Medical Engineering, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia. Tel: 60-7555-8535. E-mail: tariq363@gmail.com

**Abstract**

Hajj Instrument (HAJI) was developed to determine hajj pilgrim's wellness. This study used Rasch measurement to evaluate the psychometric properties including validity and reliability of the HAJI. The respondents involved in this study were 300 comprised of Malaysian hajj pilgrims. HAJI consists of eight constructs namely physical care, physical activity, healthy eating, knowledge, mental toughness, intrapersonal, interpersonal and relationship with Creator and natures. Validity of each construct and content was determined through dimensionality, item fit and item polarity while the reliability was achieved by administered person and item separation. The results showed that the reliability for both item and person were 0.99 and 0.96 respectively. Besides, there were no items need to be dropped based on PTMEA CORR and INFIT MNSQ results. The study revealed that the items of HAJI fit the Rasch model as well as able to measure hajj pilgrim's wellness.

**Keywords:** wellness, hajj, Rasch measurement, validity, reliability

## 1. Introduction

There are extensive literatures on the definition of wellness but few researches about the wellness assessment (Anspaugh, Hamrick, & Rosato, 2008). Wellness assessment is a tool to assist human in establishing positive lifestyle behaviors, execute early health interventions or reduce other health risks (Haddad, Owies, & Mansour, 2009). Several researchers have discussed on the difficulty of assessing the dynamic nature of wellness as well as insufficiently of the existing measurement tools (Rachele et al., 2013; Renger et al., 2000). There are several methods have been developed to measure wellness such as Life Assessment Questionnaire (LAQ) (Tearnan & Ross, 2012), TestWell (Brown, Applegate, & Yildiz, 2015), Perceived Wellness Survey (Rothmann & Ekkerd, 2007), Optimal Living Profile (von Guenthner & Hammermeister, 2007) and Wellness Inventory (Roscoe, 2009). However, those methods assess wellness in general which means not specific to certain events and age. Therefore, the results will not fully representative the general population and may not accurately address pilgrims' wellness issues or needs at all if use those assessments. Nevertheless, there is argument that some of these assessments have either good reliability or validity (Brent & Carlson, 2014). Thus, study aims to evaluate HAJI reliability and validity in order to be used as a measurement instrument for hajj ritual.

## 2. Method

This study used questionnaire and were distributed to 300 respondents consist of hajj pilgrims. The respondents were randomly chosen from six mosques which organized Hajj courses in Johor Bahru district. The questionnaire consist of 72 questions that were divided into eight construct namely physical care, physical activity, healthy eating, knowledge, mental toughness, intrapersonal, interpersonal and relationship with Creator and natures. Rasch measurement (RM) was used to analyze the validity and reliability of HAJI based on psychometric standard criteria including item dimensionality, item polarity and item fit analysis. Instrument calibration scale also was administered to assess the suitability of the scale used in HAJI. Four Likert scale was used in HAJI consist of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1).

## 3. Findings & Discussion

Validity and reliability of HAJI were analyzed using Winsteps version 3.68.2. The analysis results are as followed.

### 3.1 Dimensionality Analysis

Dimensionality is important aspect to ensure the HAJI measured in one direction and dimension. Satisfactory dimensionality define by raw variance explained where the recommended value is more than 40% while unexplained variance in $1^{st}$ contrast value is $\leq 15$ (Bond & Fox, 2015; Linacre, 2006). Figure 1 shows the dimensionality of HAJI.

```
        Table of STANDARDIZED RESIDUAL variance (in Eigenvalue units)
                                                -- Empirical --     Modeled
        Total raw variance in observations    =   139.0 100.0%      100.0%
          Raw variance explained by measures  =    67.0  48.2%       48.8%
            Raw variance explained by persons =    25.9  18.7%       18.9%
            Raw variance explained by items   =    41.0  29.5%       29.9%
          Raw unexplained variance (total)    =    72.0  51.8% 100.0% 51.2%
            Unexplned variance in 1st contrast =   10.5   7.6% 14.6%
            Unexplned variance in 2nd contrast =    7.2   5.2% 10.0%
            Unexplned variance in 3rd contrast =    5.6   4.0%  7.8%
            Unexplned variance in 4th contrast =    5.4   3.9%  7.5%
            Unexplned variance in 5th contrast =    5.0   3.6%  6.9%
```

Figure 1. Analysis of dimensionality

It can be seen in Figure 1 that raw variance explained by measures of HAJI was 48.2% as well as value for unexplained variance was 7.6% which not exceed the RM control limit. This means HAJI have good dimensional characteristic and HAJI constructs was proven to measured only one dimension (Aziz et al., 2008).

### 3.2 Reliability Analysis

RM analyzes both person and item reliability. Reliability defined as consistency of respondents' answer to the items scale (Mofreh et al., 2014). RM measures reliability including person separation reliability. This statistic shows the ability of the item to separate persons with different levels of the concept measured. According to Linacre (2006) and Bond & Fox (2015), value for accepting reliability in RM is should be more than 0.50 while acceptable separation value should be more than two (Fisher, 2010). Figure 2 and 3 show the item reliability and person reliability respectively.

```
       SUMMARY OF 72 MEASURED ITEM
    ---------------------------------------------------------------------
    |           TOTAL                      MODEL      INFIT      OUTFIT   |
    |           SCORE    COUNT   MEASURE   ERROR    MNSQ  ZSTD  MNSQ  ZSTD|
    |-------------------------------------------------------------------- |
    | MEAN      949.9    300.0      .00     .13      .97  -1.1   .96  -1.1 |
    | S.D.       94.6       .0     1.38     .01      .45   4.9   .54   4.8 |
    | MAX.     1137.0    300.0     6.08     .15     2.36   9.9  2.84   9.9 |
    | MIN.      464.0    300.0    -3.30     .10      .35  -9.2   .29  -9.7 |
    |-------------------------------------------------------------------- |
    | REAL RMSE   .14 TRUE SD  1.38  SEPARATION 10.04 ITEM  RELIABILITY .99|
    | MODEL RMSE  .13 TRUE SD  1.38  SEPARATION 10.71 ITEM  RELIABILITY .99|
    | S.E. OF ITEM MEAN = .16                                             |
    ---------------------------------------------------------------------
```

Figure 2. Analysis of item reliability

```
       SUMMARY OF 300 MEASURED PERSON
    ---------------------------------------------------------------------
    |           TOTAL                      MODEL      INFIT      OUTFIT   |
    |           SCORE    COUNT   MEASURE   ERROR    MNSQ  ZSTD  MNSQ  ZSTD|
    |-------------------------------------------------------------------- |
    | MEAN      228.0     72.0     2.54     .26     1.03   -.2   .96   -.5 |
    | S.D.       22.0       .0     1.47     .02      .58   3.1   .53   2.8 |
    | MAX.      276.0     72.0     6.08     .36     2.73   6.9  1.93   4.2 |
    | MIN.      194.0     72.0      .32     .24      .19  -5.1   .15  -6.2 |
    |-------------------------------------------------------------------- |
    | REAL RMSE   .30 TRUE SD  1.44  SEPARATION 4.81 PERSON RELIABILITY .96|
    | MODEL RMSE  .26 TRUE SD  1.44  SEPARATION 5.48 PERSON RELIABILITY .97|
    | S.E. OF PERSON MEAN = .08                                           |
    ---------------------------------------------------------------------
    PERSON RAW SCORE-TO-MEASURE CORRELATION = 1.00
    CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .97
```

Figure 3. Analysis of person reliability

Results show that value of item reliability was 0.99 whereas item separation value is more than two (10.04) as shown in Figure 2. While, Figure 3 shows person reliability was 0.96 whereas for the person separation the value was five. Thus, it can be conclude that HAJI has strong and acceptable reliability (≥ 0.8) as suggested by Aziz et al., (2008), Bond & Fox (2015) and Mamat, Maidin, & Mokhtar (2014). This means respondents involved represent actual characters that need to be tested. Besides, result for separation was good and it shows variety of skills in answering HAJI (Smith, 2000).

*3.3 Item Polarity Analysis*

Item polarity is necessary in measuring the constructs validity. It is similar to factor analysis function where it is used to access the relationship of the items in measuring the construct. The criteria of good correlation are the values PTMEA should be > 0.20 (Bond & Fox, 2015). Table 1 shows there were no value of negative correlation and all PTMEA of each items is > 0.20. This indicates that there are no mistakes in data entry or miscoded items. Table 2 shows the summary of item polarity analysis.

*3.4 Item Fit Analysis*

In order to analyze appropriateness of HAJI items, each item were analyzed separately. Each measured item shows the information of mean square (MNSQ) which can used to identify misfit item. According to Bond & Fox (2015), acceptance value of MNSQ for infit analysis should be 0.4 < x <1.5 and ZSTD values range between -2 and 2. Table 1 shows analysis of item fit for all items. From the table, it can be seen that infit MNSQ values for all items was within the standard range of RM. It means all the 72 items fit the construct and may not be drop. Table 3 shows the summary of item fit analysis.

Table 1. Analysis of item polarity and item fit

| Entry Number | Total Score | Total Count | Measure | Model S.E. | Infit | | Outfit | | PT-Measure | | Exact Match | | Item |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MNSQ | ZSTD | MNSQ | ZSTD | Corr. | EXP. | OBS % | EXP % | |
| 22 | 464 | 300 | 6.08 | .12 | 1.20 | .9 | 2.33 | 9.9 | .62 | .65 | 43.3 | 68.3 | CN22 |
| 13 | 684 | 300 | 3.61 | .10 | .49 | -.56 | .79 | -.3 | .64 | .46 | 60.6 | 51.0 | K13 |
| 62 | 745 | 300 | 2.93 | .11 | 1.17 | .8 | 2.53 | 9.9 | .25 | .58 | 31.3 | 65.2 | CN62 |
| 2 | 791 | 300 | 2.38 | .11 | 1.10 | .7 | 1.21 | .6 | .55 | .52 | 33.3 | 46.9 | HE2 |
| 37 | 821 | 300 | 2.01 | .11 | 2.03 | .99 | 2.39 | 9.9 | .55 | .54 | 50.7 | 65.6 | MT37 |
| 20 | 829 | 300 | 1.91 | .11 | 1.33 | 1.2 | 1.04 | .3 | .76 | .46 | 48.5 | 50.5 | MT20 |
| 16 | 864 | 300 | 1.44 | .12 | .92 | 0 | 1.00 | .0 | .74 | .54 | 73.7 | 69.7 | HE16 |
| 36 | 864 | 300 | 1.44 | .12 | 1.19 | 1.24 | 1.31 | 3.1 | .81 | .54 | 68.3 | 69.7 | INTER36 |
| 38 | 864 | 300 | 1.44 | .12 | .65 | -.46 | -.8 | -.8 | .80 | .27 | 84.8 | 77.6 | K38 |
| 3 | 866 | 300 | 1.41 | .12 | 1.17 | .7 | 1.21 | .6 | .64 | .52 | 33.3 | 46.9 | MT3 |
| 9 | 869 | 300 | 1.37 | .12 | .49 | -.56 | .75 | -.6 | .75 | .52 | 45.5 | 46.8 | K9 |
| 35 | 872 | 300 | 1.32 | .12 | 1.16 | .7 | 1.30 | 3.0 | .49 | .54 | 74.0 | 70.5 | CN35 |
| 21 | 882 | 300 | 1.18 | .12 | .99 | 0 | 1.03 | .3 | .44 | .54 | 74.0 | 71.4 | CN21 |
| 43 | 892 | 300 | 1.03 | .12 | 1.37 | 1.49 | 1.38 | 1.0 | .45 | .52 | 21.2 | 46.8 | PA43 |
| 15 | 893 | 300 | 1.02 | .12 | 1.09 | .7 | 1.17 | .5 | .73 | .52 | 48.3 | 46.9 | K15 |
| 45 | 901 | 300 | .89 | .12 | 1.38 | 1.3 | 1.02 | .2 | .54 | .37 | 45.5 | 59.7 | PA45 |
| 42 | 909 | 300 | .77 | .13 | 1.02 | .2 | 6.92 | 5.6 | .62 | .45 | 57.6 | 51.7 | MT42 |
| 39 | 916 | 300 | .66 | .13 | .87 | -.15 | .89 | -1.0 | .60 | .55 | 79.7 | 74.2 | MT39 |
| 69 | 917 | 300 | .64 | .13 | .65 | -.42 | .59 | -4.8 | .84 | .55 | 91.3 | 74.2 | MT69 |
| 8 | 925 | 300 | .51 | .13 | 1.01 | .1 | .94 | -.5 | .76 | .55 | 77.0 | 74.7 | INTER8 |
| 18 | 925 | 300 | .51 | .13 | 1.26 | 1.22 | .96 | .1 | .65 | .39 | 60.6 | 58.8 | K18 |
| 14 | 932 | 300 | .40 | .13 | 1.19 | .8 | 1.13 | 1.3 | .53 | .56 | 74.0 | 75.1 | CN14 |
| 11 | 941 | 300 | .25 | .13 | 1.01 | .1 | 1.00 | .1 | .60 | .56 | 71.7 | 75.4 | MT11 |

| Entry Number | Total Score | Total Count | Measure | Model S.E. | Infit | | Outfit | | PT-Measure | | Exact Match | | Item |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MNSQ | ZSTD | MNSQ | ZSTD | Corr. | EXP. | OBS % | EXP % | |
| 47 | 950 | 300 | .09 | .13 | .62 | -.43 | .62 | -4.2 | .61 | .81 | 79.7 | 75.7 | MT47 |
| 41 | 951 | 300 | .08 | .13 | .63 | -.72 | 0.53 | -1.1 | .54 | .48 | 75.8 | 48.7 | PA41 |
| 48 | 951 | 300 | .08 | .13 | .92 | 0 | 1.30 | .7 | .71 | .24 | 84.8 | 83.4 | PA48 |
| 49 | 951 | 300 | .08 | .13 | .89 | -.12 | .88 | -1.1 | .68 | .58 | 82.3 | 75.8 | K49 |
| 17 | 952 | 300 | .06 | .13 | .66 | -.40 | .65 | -3.8 | .55 | .26 | 82.7 | 75.8 | MT17 |
| 52 | 952 | 300 | .06 | .13 | .79 | -.23 | .76 | -2.5 | .64 | .40 | 82.7 | 75.8 | K52 |
| 67 | 953 | 300 | .04 | .13 | .84 | -.7 | .74 | -.4 | .80 | .47 | 60.6 | 49.3 | INTER67 |
| 19 | 959 | 300 | -.06 | .13 | 1.20 | .9 | 1.25 | .8 | .74 | .58 | 45.5 | 44.5 | INTER19 |
| 40 | 959 | 300 | -.06 | .13 | 1.05 | .5 | .97 | -.3 | .70 | .52 | 79.7 | 76.1 | K40 |
| 68 | 961 | 300 | -.10 | .13 | .83 | -.6 | .77 | -2.3 | .77 | .57 | 80.3 | 76.2 | HE68 |
| 46 | 967 | 300 | -.20 | .13 | .95 | -.5 | .92 | -.8 | .78 | .57 | 83.0 | 76.3 | PA46 |
| 4 | 968 | 300 | -.22 | .13 | .79 | -.4 | .67 | -.3.5 | .58 | .57 | 82.7 | 76.3 | HE4 |
| 23 | 968 | 300 | -.22 | .13 | 1.01 | .1 | .97 | -.2 | .77 | .57 | 72.0 | 76.3 | INTER23 |
| 26 | 968 | 300 | -.22 | .13 | .70 | -.35 | .63 | -4.1 | .76 | .52 | 77.3 | 76.3 | K26 |
| 59 | 976 | 300 | -.36 | .13 | 1.30 | 1.42 | 1.28 | 2.5 | .69 | .52 | 68.0 | 76.2 | MT59 |
| 31 | 977 | 300 | -.37 | .13 | .94 | -.73 | .93 | -.7 | .64 | .37 | 75.0 | 76.2 | MT31 |
| 51 | 977 | 300 | -.37 | .13 | .69 | -.37 | .64 | -3.9 | .68 | .34 | 85.7 | 76.2 | MT51 |
| 54 | 978 | 300 | -.39 | .13 | .81 | -.21 | .77 | -2.3 | .61 | .36 | 80.0 | 76.2 | MT54 |
| 5 | 984 | 300 | -.50 | .13 | .74 | -.77 | .67 | -3.5 | .68 | .57 | 83.0 | 76.2 | PC5 |
| 10 | 984 | 300 | -.50 | .13 | .69 | -.39 | .62 | -4.2 | .61 | .46 | 77.7 | 76.2 | MT10 |
| 6 | 985 | 300 | -.51 | .13 | .70 | -.2 | .69 | -.5 | .60 | .45 | 51.5 | 51.7 | HE6 |
| 50 | 985 | 300 | -.51 | .13 | .76 | -.68 | .54 | -.8 | .58 | .27 | 84.8 | 77.6 | HE50 |
| 61 | 985 | 300 | -.51 | .13 | 1.12 | 1.21 | 1.11 | .4 | .64 | .26 | 87.9 | 81.0 | PC61 |
| 53 | 986 | 300 | -.53 | .13 | .77 | -.8 | .79 | -.3 | .73 | .45 | 66.7 | 52.2 | INTER53 |
| 55 | 987 | 300 | -.55 | .13 | .66 | -.41 | .60 | -4.5 | .73 | .24 | 83.3 | 76.2 | MT55 |
| 66 | 987 | 300 | -.55 | .13 | .69 | -.37 | .64 | -3.9 | .60 | .53 | 82.7 | 76.2 | MT66 |
| 28 | 995 | 300 | -.69 | .13 | .70 | -.35 | .63 | -4.0 | .74 | .58 | 80.0 | 76.0 | MT28 |
| 44 | 1000 | 300 | -.78 | .13 | .68 | -.40 | .63 | -4.0 | .64 | .46 | 85.7 | 75.9 | K44 |
| 65 | 1001 | 300 | -.79 | .13 | .82 | -.21 | .79 | -2.1 | .67 | .47 | 80.0 | 75.9 | K65 |
| 27 | 1002 | 300 | -.81 | .13 | 1.41 | 1.2 | 1.11 | .4 | .65 | .26 | 87.9 | 81.0 | PA27 |
| 29 | 1002 | 300 | -.81 | .13 | .92 | 0 | 1.3 | .7 | .50 | .24 | 84.8 | 83.4 | PC29 |
| 70 | 1002 | 300 | -.81 | .13 | .70 | -.12 | .65 | -3.9 | .69 | .57 | 91.7 | 75.8 | CN70 |
| 7 | 1008 | 300 | -.92 | .13 | 1.40 | 1.16 | 1.34 | 3.0 | .38 | .57 | 74.0 | 75.5 | CN7 |
| 24 | 1009 | 300 | -.93 | .13 | .76 | -.16 | .66 | -3.7 | .62 | .57 | 76.7 | 75.5 | CN24 |
| 12 | 1010 | 300 | -.95 | .13 | 1.24 | 1.0 | 1.23 | 2.1 | .57 | .57 | 65.7 | 75.4 | CN12 |
| 30 | 1011 | 300 | -.97 | .13 | .83 | -.6 | .75 | -.6 | .57 | .52 | 45.5 | 46.8 | PC30 |
| 60 | 1011 | 300 | -.97 | .13 | .67 | -.93 | .66 | -.8 | .82 | .51 | 39.4 | 47.0 | INTER60 |
| 64 | 1011 | 300 | -.97 | .13 | .89 | -.6 | .75 | -.6 | .73 | .52 | 45.5 | 46.8 | INTER64 |
| 32 | 1019 | 300 | -1.11 | .13 | .82 | -.6 | .79 | -.3 | .76 | .46 | 60.6 | 51.0 | INTRA32 |

| Entry Number | Total Score | Total Count | Measure | Model S.E. | Infit | | Outfit | | PT-Measure | | Exact Match | | Item |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MNSQ | ZSTD | MNSQ | ZSTD | Corr. | EXP. | OBS % | EXP % | |
| 33 | 1019 | 300 | -1.11 | .13 | .90 | 0 | 1.3 | .7 | .75 | .24 | 84.8 | 83.4 | INTR A33 |
| 57 | 1027 | 300 | -1.25 | .13 | .54 | -.18 | .45 | -6.4 | .76 | .45 | 79.7 | 74.0 | K57 |
| 56 | 1028 | 300 | -1.26 | .13 | .49 | -.58 | .54 | -5.1 | .31 | .55 | 86.0 | 73.9 | CN56 |
| 63 | 1038 | 300 | -1.44 | .13 | .59 | -.18 | .59 | -1.1 | .63 | .52 | 48.5 | 46.8 | PC63 |
| 58 | 1043 | 300 | -1.52 | .13 | .78 | -.18 | .69 | -3.0 | .59 | .54 | 83.3 | 73.0 | CN58 |
| 34 | 1044 | 300 | -1.54 | .13 | .81 | -.89 | .79 | -.3 | .82 | .45 | 66.7 | 52.2 | INTR A34 |
| 25 | 1046 | 300 | -1.58 | .13 | 1.02 | .2 | 6.92 | 5.6 | .78 | .45 | 57.6 | 51.7 | INTR A25 |
| 72 | 1069 | 300 | -1.97 | .13 | .83 | -.6 | .79 | -.3 | .76 | .46 | 60.6 | 51.0 | PC72 |
| 71 | 1095 | 300 | -2.44 | .14 | 1.04 | 1.13 | 1.25 | .7 | .80 | .50 | 21.2 | 47.4 | INTR A71 |
| 1 | 1137 | 300 | -3.30 | .15 | 1.07 | 1.27 | 1.54 | 1.9 | .69 | .37 | 73.3 | 80.0 | HE1 |

Table 2. Analysis of item polarity

| No. | Construct | PTMEA CORR | |
|---|---|---|---|
| | | Min | Max |
| 1 | Physical Activity | 0.45 | 0.78 |
| 2 | Healthy Eating | 0.55 | 0.77 |
| 3 | Physical Care | 0.50 | 0.76 |
| 4 | Intrapersonal Communication | 0.75 | 0.82 |
| 5 | Interpersonal Communication | 0.73 | 0.82 |
| 6 | Knowledge | 0.64 | 0.81 |
| 7 | Relationship with Creator and natures | 0.25 | 0.69 |
| 8 | Mental Toughness | 0.55 | 0.87 |

Table 3. Analysis of item fit

| No. | Construct | INFIT MNSQ | | INFIT ZSTD | |
|---|---|---|---|---|---|
| | | Min | Max | Min | Max |
| 1 | Physical Activity | 0.63 | 1.41 | -0.72 | 1.49 |
| 2 | Healthy Eating | 0.70 | 1.10 | -0.68 | 1.27 |
| 3 | Physical Care | 0.59 | 1.12 | -0.77 | 1.21 |
| 4 | Intrapersonal Communication | 0.81 | 1.04 | -0.89 | 1.13 |
| 5 | Interpersonal Communication | 0.67 | 1.20 | -0.93 | 1.24 |
| 6 | Knowledge | 0.49 | 1.26 | -0.56 | 1.22 |
| 7 | Relationship with Creator and natures | 0.49 | 1.40 | -0.58 | 1.16 |
| 8 | Mental Toughness | 0.62 | 1.30 | -0.73 | 1.42 |

*3.5 Category Function Analysis*

Rasch analysis could validate the scale used by made zero calibration setting. Rasch analysis determines validity of respond possibility to spread fairly between specified scales (Alagumalai, Curtis, & Hungi, 2005; Aziz et al.,

2008; Kassim, 2007). Figure 3 and 4 shows summarized of category function analysis and structured measurement at the intersection point. It can be seen most frequent option answered by respondent was three (13230) following by 4 (6119), 2 (1977) and 1 (274). It can be seen also that respond pattern was normal due to the observed average start from negative logit (-1.92) and end with positive logit (4.56). Lastly, structure calibration is the strength of Rasch measurement model where Rasch solved the gap flexibility problem within the Likert scale range. In this study, the deviation between the scale one and two was 3.31, deviation for two and three was 4 and deviation for three and four was 4.69. This verified that scale used in HAJI is suitable and manage to differentiate by respondent. According to Bond & Fox (2015) value of scale need to be remain if the deviation value is more than 1.4 and less than 5 ($1.4 < s < 5$).

```
SUMMARY OF CATEGORY STRUCTURE.   Model="R"
-------------------------------------------------------------------
|CATEGORY    OBSERVED|OBSVD SAMPLE|INFIT OUTFIT||STRUCTURE|CATEGORY|
|LABEL  SCORE COUNT %|AVRGE EXPECT|  MNSQ  MNSQ||CALIBRATN| MEASURE|
|--------------------+------------+------------++---------+--------|
|  1     1    274   1| -1.92 -3.11|  2.08  2.41||  NONE   |( -4.46)| 1
|  2     2   1977   9|   .40   .19|  1.19  1.16||  -3.31  |  -2.00 | 2
|  3     3  13230  61|  2.02  2.16|   .90   .79||   -.69  |   1.66 | 3
|  4     4   6119  28|  4.56  4.38|   .85   .83||   4.00  |(  5.10)| 4
-------------------------------------------------------------------
```
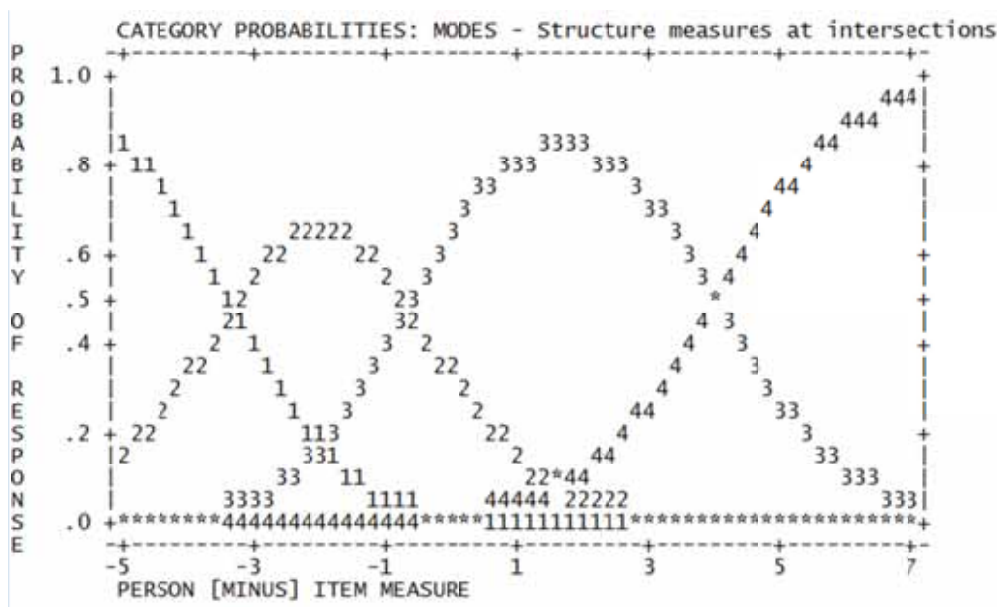
Figure 4. Analysis of category function



Figure 5. Structured measurement at the intersection point

## 4. Conclusion

This study used RM to evaluate the psychometric properties of HAJI including reliability and validity. The items were developed based on previous research and expert consult. While for the evaluation of items, researcher used RM. From the findings, HAJI obtained high reliability value and this indicates that HAJI is valid and reliable to measure pilgrim's wellness. Based on the results, item reliability was 0.99 > 0.50, item separation was 10.04 > 2.0, dimensionality exceed the standard range of RM, all PTMEA shows positive value and all 72 items are found to be valid. Thus, this study contributes significantly to the hajj pilgrims and can be used by responsible parties including hajj management and ministry of health to determine hajj pilgrim's wellness.

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# How Micro-courses can Improve the Effectiveness of Ideological and Political Theories Curriculum Teaching through Teaching Design in China

Liangliang Wang[1] & Mingfang Fan[1]

[1] School of Humanities, Economics and Law, Northwestern Polytechnical University, Xi'an, P.R.China

Correspondence: Liangliang Wang, Mailbox 889, Dong-Xiang Road, School of Humanities, Economics and Law, Northwestern Polytechnical University, Xi'an, Shaanxi, P.R. China. Tel: 86-029-8843-1909. E-mail: celia.liangliang.wang@hotmail.com

**Abstract**

In this article the concepts of micro-courses, research tools and research outcomes are used to clarify why and how the use of micro-courses could effectively improve Ideological and Political Theories Curriculum Teaching (IPTCT) in China. Firstly, IPTCT is significantly different from other kinds of knowledge courses in China and effective teaching in IPTCT is a research topic that is usually accompanied by the development of micro-courses in recent Chinese higher education. The relationship between them is important and complex. And then research has also been conducted to explain how micro-courses could affect the four aspects of IPTCT teaching design which includes concept design, content design, strategy design and assessment design. In this part, researchers spend a large amount of content explaining and illustrating event design processes using micro-courses, which has an important role in the overall teaching design of IPTCT. Finally, the article concluded that researchers and/ or IPTCT teachers should pay lots attention to the utilities of micro-courses in the IPTCT, recognizing the strength and flexibility of micro-courses.

**Keywords:** micro-courses, effectiveness, ideological and political theories curriculum teaching, teaching design, China

## 1. Introduction

Ideological and Political Theories Curriculum Teaching (IPTCT) has played an important and effective role in Chinese higher education (Wenli, 2010). There are many different approaches and methods that impact on the effectiveness of IPTCT (Weihong, 2014; Silin, 2014; Sinian, 2006) and therefore it may sometimes be a difficult task for a researcher to choose the one that best suits the task at hand. In recent years, the use of micro-courses has also become accepted by the community of IPTCT researchers as a means of improving the effectiveness of teaching (Tianxiang et al., 2016). This paper aims to promote a discussion on the effectiveness of IPTCT and the use of micro-courses in situations where they are particularly suitable.

When we discuss in this paper how micro-courses could improve the effectiveness of IPTCT, we acknowledge first that one of IPTCT's strengths is in the area of teaching design and related aspects. We use the terms micro-course, mini-course, micro-teaching and micro-lectures as synonyms, based on the assumption that micro-courses and their variants could improve the effectiveness of IPTCT and that they are effective approaches for teaching design in general.

While researchers who have used micro-courses before are likely to be aware of many of the aspects we discuss in this paper, we hope to introduce new researchers in IPTCT to the special function of micro-courses used in this context. This paper is organized as follows: we will briefly discuss some aspects of IPTCT, including its definition, current status, and the history and development of micro-courses in China. We acknowledge that there are already several research papers that provide a detailed account of IPTCT and micro-course use. In this paper we aim to provide a short introduction to both topics, with references to some of the books and other publications that we have found helpful in understanding the issues involved. However, the main part of this paper was contained in the next section, where we aim to show how the utilities of micro-courses can affect concept design, content design, event design, strategy design and assessment design. In this section we

concentrate on showing how IPTCT designs include micro-courses at the event design stage. In the conclusion we summarized results, findings, strengths, distinctions, suggestions, and implicit threats in the inclusion of micro-courses in IPTCT.

## 2. Literature Review

### 2.1 What Is the Effectiveness of IPTCT?

The effectiveness of IPTCT is closely related to its definition. Understanding the meaning of the term and its main ideals has implications for understanding its foundational concepts. What core concepts and/or important content should be seen as comprising the IPTCT? If one considers the possibility of giving the definition of IPTCT a denotative meaning, this would not be completely satisfying without some content supporting the decision to classify it in this way. That is, we need to understand exactly what Ideological and Political Theories Curriculum Teaching (IPTCT) is before we can discuss its effectiveness. The term, Ideological and Political Theories Curriculum (IPTC), is the name of a series of courses taught in China including five courses altogether, which include Basic Principles of Marxism (BPM), Mao Ze-Dong Thought, Deng Xiao-Ping Theories, and Three Represents Important Thinking (MZDT, DXPT&TRIT), Chinese Modern and Contemporary History Outline (CMCHO), Ideological and Moral Education & Elements of Law (IMEEL) (Qin, 2009). Teaching in classrooms that covers the Ideological and Political Theories Curriculum (IPTC) is known collectively as Ideological and Political Theories Curriculum Teaching (IPTCT).

IPTCT has played an important role in China. Firstly, all Chinese undergraduates enrolled in any colleges and universities are required to choose this series of courses. Students need to finish all five courses learning in their higher education process. In addition, the Ministry of Education which manage college curriculum policy requires that all universities have to guarantee IPTCT taught on a regular basis, and that these courses will be kept up to date with new teaching content about the country and the current situation. What's more, IPTCT has a special importance position in China, which different from other regular knowledge courses such as Math or Science. In other words, the fundamental purpose of IPTCT was not merely a sort of knowledge education students have acquired, but rather to provide methods and skills that could give more guidance and orientation students could use them in their future lives. Its essence aims is that help students eventually form understand to the world, show personal values to society and present spirits to human being. From this point, a special status of IPTCT was given by the country, which means teaching for IPTCT has a special role in the education.

Researchers have different opinions about the effectiveness of IPTCT. In this paper, we are intending to adopt the following understanding from four aspects to describe IPTCT's effectiveness. Zha (2011) argued that IPTCT is a process of receiving knowledge firstly. It not only includes understanding of the Marxist viewpoint and methodology, Chinese Communist Party theory, the Communist Party's lines, principles and policies (including China's revolution, construction and history of reform and new open reform), but understanding of basic national conditions, circumstances and policies. Secondly, it is a process of emotional recognition of what the Communist Party stands for and requires. Thirdly, it is a process of education of the will, including the formation of good moral consciousness for college students. Last but not least, it is an orientation education process. It requires college students could use a Marxist standpoint, viewpoint and method to analyze and solve problems and establish a correct outlook for life. Altogether with an understanding of the basic values comprise the ultimate aims the IPTCT programme.

Only understanding the implications of IPTCT can one arrive at a definition of what it means. Specifically, the IPTCT programme helps IPTC (i.e. the curriculum itself) to be more effective. In the context of the current Chinese education situation, in order to improve the effectiveness of IPTCT, we should first look at the delivery of the Ideological and Theories Curriculum (IPTC) as this is where IPTCT mainly occurs.

### 2.2 The Development of the Micro-courses

The term micro-courses, also called micro-teaching, mini-course, micro-lecture, and micro-lesson originated in the United States in the 1960s, which was first proposed by an affiliated school of the University of Iowa in 1960 (Hu, 2014). It is clear that mini-courses play an important role in modern education. Research form Zipko (1975) has showed his flexibility for junior- and senior-high-school students. Borg (1972) pointed out that in 1963 many courses were used as an extension of the research into micro-teaching and of the technical skills of teaching that first commenced at Stanford University, which indicates that this type of mini-course was first used earlier in the last century. In addition, mini-courses are usually a shorter version of a normal school course, running for approximately 8 to 10 minutes, and usually presented by a student teacher to a smaller group of classmates. This made it possible to give student teachers more teaching experience in hands-on, learner-centered teaching. In 1998, micro-lessons projects were implemented by the Ministry of Education in Singapore, which had designed

many courses in their field with the main purpose of training teachers how to build mini-courses, generally ranging from 39 minutes to 1 hour in duration. Their teaching objectives were simple, centralized and gave more emphasis to the learning environment, resources and creative activities. The overall aim was to provide students with effective learning skills. In the autumn of 2008, David Penrose, known as the "one-minute" professor, and then a professor at the New Mexico College of San Juan, pioneered another kind of micro-course that closely combines teaching content with teaching objectives, using constructivism and online learning or mobile learning for the purpose of practical teaching content creation, all contained within a duration of one minute. Overall, mini-lectures have been developed for all levels of schools and at some institutions of higher education. We found that these micro-curricula and other educational activities together promote the development of learner knowledge. However, results for colleges and universities were not the same, as some were successful while others had poor outcomes. Some famous and well-known universities in the world, such as Princeton University, Humboldt State University and the University of West Florida are all good examples of successful outcomes using this approach. What they actively promote is a type of innovative teaching methodology that is one of the main styles of 21st century teaching and learning.

Some countries have experienced a developmental process that involves moving from online course components to wholly online teaching. A typical example is the Khan Academy, which is a non-profit organization founded by Salman Khan, a Bangladeshi-American. Salman Khan recorded over 2000 micro-instructional videos with his $25 Logitech headset, a $200 desktop video software called Camtasia recorder, an $80 drawing-handwriting Wacom Bamboo Tablet, and the free software Smooth draw 3, and put them all on YouTube. Having done all of this, he created the Khan Academy Online Open Course Ware Website (KAOPCWW). In addition, Westhuizen (2015) emphasizes that micro-teaching lessons can use video annotation software applications for thorough collaborative assessment and feedback in geography education. In fact, according to a survey in Ohio, mini-courses delivered in America have a positive impact on students and administration relationships (Parkinson, 2015). Micro-courses have already attracted the attention of academics at all levels into every area of its exploration and research (McCoy et al., 1991; Fizel & Johnson, 1986; Geogre, 2011; Empen et al., 2015). This includes meta-theory concepts of micro-courses to their application in various disciplines, from services they provide to the study and practice of higher education, to guidance for primary and secondary education, and from the contents of discussions around them to their impact on teachers' professional development.

In China research on micro-courses has occurred relatively later than any other countries on the whole, however it has involved exploration and basic research on both theory and practice. Zhang (2014) pointed that the concept of micro-courses was put forwarded by Hu Tiesheng first in China, and then put them under the new curriculum standards and classroom teaching practices, using teaching video for the main presentation style, reflecting on the fact that teaches generate organic combinations and at certain knowledge points in some teaching activities with a variety of teaching resources. Li (2013) contributes a lot for the definition of micro-course in China, which is a sort of small and short course which is confined to less than 10 minutes, with clear teaching objectives, limited content, and concentrated on a small problem. Other researcher assumed that micro-course is a sort of course that front-line teachers, rather than researchers, developed themselves to accompany small courses with a duration of around 5 minutes, which is often demanded by a teacher's education situation and teaching practice, as required by and for teachers as a solution to the thorny issue of work. Tian (2009) defined micro-courses in terms of the independence and integrity of relatively small-scale programs, organized modules, availability of school-based resources, teacher ability and student interests. According to Qiuhua, characteristics such as short, small and fine are composed in microteaching and it is adaptable to all stages of school education and various course types. From a practical aspect, different provinces' city schools in China have been developing micro-course designs and applications since 2010. For example, Guangdong province, and other coastal cities have been exploring further development school-based.

On the whole, based on what has been discussed above, under the current form of education in China, the development of micro-courses will certainly require further study. Recent research by Wen & Zhang (2015) supports that efforts have been around the design of micro-lectures mobile learning systems based on web platforms and designed for use on smartphones. Some researchers (Chuan & Jun, 2015) have explored a kind of Micro-lecture Mobile Learning System (MMLS), which was used for supporting multiplatform, including PC terminals and smartphones. Research by Hou et al. (2016) however points out that in China, micro-courses are highly valued by the Ministry of Education, education administrative departments at all levels, which show micro-course resources are rich.

*2.3 The Relationship between IPTCT and Micro-courses*

It has been demonstrated that teaching and learning could improve from a design perspective (Hauge, 2014;

Price & Kirkwood, 2014). Meanwhile, Nie (2014) mentioned the application of virtual reality technology in design. And also, effective technology and design gives the right way in the class (McNair & Clarke, 2007).

A current trend in teaching delivery is that learning should no longer be confined to the classroom, leading to increased flexibility in teaching and learning. In view of this, we reasonably believe the technology has not only changed our daily life, but the Ideological and Political Theories Curriculum Teaching approach to classroom teaching. It certainly should not be confined to the classroom, text-books or other traditional media. It is important to know that encouraging the exploration of new teaching models, changes or manners, and their timely use in teaching design, giving the teaching a more scientific, rational, mobile, and active role, meeting the interests of students and ultimately enhancing the overall effectiveness of IPTC.

We also found that in current teaching practice, some college teachers who taught the IPTC to post-90s students also persist in using one kind of teaching style who still rely on single exams, blackboards and textbooks. The most likely reason was that they did not want to change their traditional teaching methods. The conclusion cannot be avoided that in doing so they will lose more active opportunities to change their teaching approach and subsequently would not be able to improve the effectiveness of IPTC. It should also be noted, however, that some teachers are changing their teaching approach, by adding micro-courses to their teaching.

In studying the effectiveness of IPTC through the use of micro-courses, we made several assumptions about the conceptual model. On one hand, because all of the IPTC teachers had different levels of skill in designing micro-courses, we assumed that attaining a skillful level for micro-course design may influence teaching levels in teaching and may also influence the outcomes of some of the micro-courses themselves. However, it is unlikely to directly influence the overall effect in either the design of micro-courses or the process of delivering micro-lessons. On the other hand, these influences omitted from our current research. Therefore, the paper's authors have to illustrate that the paper's main intention is to talk about micro-courses as applied to the IPTCP from the college teachers' point of view, although students have also played an important part in the whole teaching process. There are also other methods which could be used to improve the effectiveness of IPTCT, which are not covered here.

## 3. How Micro-courses could Affect the Teaching Design of IPTCT

Teachers and researchers who teach the Ideological and Political Theories Course IPTCP cannot ignore the influence that micro-courses bring to the process. This is because technology not only brings technical innovation to teaching, but changes the nature of teaching methods, and even the teaching process itself. Indeed, technology can radically improve teaching through the use of these kinds of controlled methods. Given the current rapid development of information technology, the development of mini-courses plays a useful and complementary role in IPTCT delivery.

In attempting to shed some light on the important effect that micro-courses may play in the IPTC process, we have tried to focus on the effectiveness of teaching design for IPTCT. If we want to improve the effectiveness of IPTC, we should improve the effectiveness of teaching design first that is because starting with good design can affect the whole teaching process and the final evaluation of teaching, but only if it can be well used. Meanwhile, teaching design is an important part of the whole teaching process because design planning can arrange teaching in such a way that it adequately addresses expected teaching outcomes. If we want to improve the effectiveness of IPTC, we should pay attention to IPTC teaching and then apply micro-course development in the teaching design, in order to enhance the impact of IPTC teaching.

### 3.1 How Micro-courses Affect the Concept Design of IPTCT

Concept design is the process, which means you have to select an embodied concept when trying to develop solutions for a given problem, and covers the generation of ideas (Wodehouse & Ion, 2009). Instruction concepts design is an important condition of IPTC delivery, as it relates to a teacher's grasp of the whole teaching process and is also a manifestation of IPTCT effectiveness. Classroom teaching is considered the main space or the battlefield for effective Ideological and Political Theory teaching. Its concept design determines how effectively it can present the subject's objectives. It is only when we consider the concept of the subject first that it can be processed at the overall teaching level. What's more, if IPTC teachers understand concept design they can therefore gain an understanding of the whole teaching process. They must also first pay attention to teaching concept design aspects and will then be able to systemically design their entire teaching more effectively.

When considering micro-courses in the context of IPTCT concept design, all concepts of the subject should be designed according to the features of the micro-course. The target design should include not only mastery of the basic category, basic principles, and basic methods, but also the use of basic ideas and an ability to analyze

expected problems as well as establishing a correct outlook on life and its values. What is more, as anticipated in the design of micro-courses, concepts should effectively reflect the pedagogy, psychological characteristics, and social characteristics of contemporary college students. In the IPTCT context, teaching needs to link the core concepts. For example, when talk about the basic concept of materialism and consciousness, in the teaching process of unit called *Basic Principles of Marxism*, it is better for teachers relate abstract concept to real life through vivid examples based on the micro-course. And also it is good change built a relation involved in the teaching.

Furthermore, we need to reflect on the special characteristics of IPTCT, as it is not a knowledge-type course. Its concept teaching should be reflected with every step of the teaching process, that is, at the design step, the designer should pay more attention to the concept design. Our aim is not to ascertain what students remember about the concept of IPTC but to ensure that they understand the meaning of the concept. From this point of view micro-courses do not attempt to show subject concepts, but concentrate on building an understanding of them.

Last but not least important, it needs to be stressed that the use of micro-courses that make use of the concept design of IPTCT is the needs of teaching rather than pursuit fashion. Therefore, the concept design of micro-courses used in IPTCT must be effectively built at the very first stage and strengthened in early teaching design, then processed and unified in the overall aspect of instructional design if lecturers wish to improve the effectiveness of their teaching.

### 3.2 How Micro-courses can Affect the Content Design of IPTCT

Instruction content design is a core part of the whole instructional design process. Seven essential principles for designing and developing were identified by Cagiltay (Cagiltay et al., 2011). Based micro-course content design has different meanings in this context, which includes the following aspects:

In the first place, what form should be adopted to meaningfully illustrate the content of IPTCT? Since the implementation of the "05 Program", some changes in the IPTC have opened up for undergraduates. Apart from the five types of courses mentioned above, there are also two courses for graduate students. One is Scientific Socialism (SS) and another is Socialism and Contemporaneity (SC) for PhD students. Both are to examine the students' understanding of the basic theories of Marxism and finally to guide them for ideological education purposes. In fact, content of IPTC in China has been demanded, which means teachers could not flexibly express ideas that has no relation to the topic. Teacher however could change the teaching methods, making the process fun and meaningful.

According to this consideration, teachers could choose different types of formats such as micro-courses to capture students' interests, promoting the effectiveness of IPTC. Taking the second chapter of the Early Adventure of the Country's Pathway as an example (*Chinese Modern and Contemporary History Outline*, 2009), it is a little bit difficult to illustrate the meaning of Chinese spirit. So, we could design a micro-course to show this teaching content. In this micro-course, we could use images, pictures and video to illustrate different times, different stages in Chines history context, illustrating different special patriotic content and traditions. At present, build and contribute our country for college students is a good illustration to show Chinese spirit. In this micro-course party, more content is presented and tell students there is a changing in patriotism at different history stages. Eventually, China Dream will become the current Chinese spirit topic for Chinese. College students can therefore easily understand its different and changing content in different historical contexts, and they can also master the core content of this course.

In the second place, IPTC teachers can choose what sequence to arrange these components using micro-courses. We have discussed the fact that IPTC courses differ from other scientific and cultural programs. To a certain extent, it is not knowledge learning, but a kind of attitude learning. Compared to other courses that knowledge-based, IPTCT is skills-based. It ultimately help more students mastering scientific world outlook on life and values. Thus, IPTC teachers should effectively arrange the delivery sequence of the whole IPTC, based on micro-courses.

In the third place, time flexibility impacts on the teaching experience. College students are different from high school students. They have perfected their learning skills and they do not need to be taught by the teacher step-by-step. We can design micro-courses based on certain teaching content that allow students to learn by themselves. Typically, they are better at understanding, better at mastery and make more efficient use of class time. If teachers design content as micro-courses, learners could take advantage of their leisure time to study. They have more interesting, leisure time, and tend to be more practical as micro-medical (like cellphones, iPads, Wechat) play an important part in college students' daily lives. By designing micro-courses teachers have more flexible time to arrange all of their teaching activities and decide which content to arrange for different times.

*3.3 How Micro-courses can Affect the Events Design of IPTCP*

Modern educational theory strengthens the importance of the teaching event, mainly through the design of a set of external learning supports and internal learning process events. Johnson (2013) has put forward a concept integrated event design and achieve a blended course delivery. In general, in a single learning activity, teaching events are usually divided into the following nine events.

Table 1. Instructional events in relation to learning processes

| Instructional Event | Relationship to Learning Process |
|---|---|
| Gaining attention | Reception of patterns of neural impulses |
| Informing learner of the objective | Activating a process of executive control |
| Stimulating real prerequisite learning, provoking a prerequisite | Retrieval of prior learning to working memory |
| Presenting the stimulus material | Emphasizing features for selective perception |
| Providing learning guidance | Semantic encoding: cues for retrieval |
| Eliciting the performance | Activating response organization |
| Providing feedback about performance correctness | Establishing reinforcement |
| Assessing the performance | Activating retrieval: making reinforcement possible |
| Enhancing retention and transfer | Providing cues and strategies for retrieval |

*Note.* Source: Gagné, R. M., Briggs, L. J., Wager, W. W. (1916).

As Table 1 shows, with regard to teaching, the subject matter establishes a common understanding of teaching events, thereby enabling the effect of IPTCT to reflect its purpose, and its main purpose is to activate the process of information processing. For the IPTCT this should abide by the principles and formation of IPTC teaching events. We could use micro-course design in IPTC teaching events and thereby build up the teachers' teaching philosophy. We are not denying that college students have the learning ability to build their own teaching events, however we should also stress that the following nine events described below are used in IPTCT.

3.3.1 How to Gain Attention in IPTC

We must accept the fact that different kinds of events were employed to gain a student's attention and also to appeal learners' interests or curiosity. However, in micro-course design for this step, a fundamental and frequently used way to obtain attention is highly suitable because higher education learners are considerably different from primary students and high school students. For middle and high school students, teachers may present a demonstration, a motion picture or television scene, or introduce some joke to appeal to the students' curiosity. For college students, however, who are learning IPTC, this is not always functional for them because they need to direct attention to the content or topic of IPTC rather than a mere introduction. So, designing the IPTC, it would be better to design a less formal introduction.

3.3.2 Informing the Learner of the Objective

The learning of objective of IPTCT is usually clear and no special communication is required. Sometimes, however, it has been speculated that the communicative objective of IPTCT for college students could tend to keep them from trying to meet other objectives. The best and simplest method in dealing with this sort of problems is IPTCT teachers confine themselves to answer questions in classes and thereby allow students to develop their own objectives and learn how to learn by themselves.

When designing this part of the course, teachers should be aware that micro-courses are not present the objectives of this class, requiring students to be aware of the class' destination goals. Obviously, teaching will become special for students to show the objectives of the lesson using micro-courses. What adds to its impact is that the requirements should be achieved by the end of the lesson and they should persist throughout the whole teaching. Naturally, skills about informing students of the objectives are primarily based on the teacher's design skills in creating micro-courses, and involves knowledge of related fields such as management, organizational skills and logic skills.

3.3.3 Stimulating Recall of Prerequisite Learned Capabilities

This is an essential event in the design of micro-courses for IPTCT and also affects the outcomes of IPTCT. For IPTCT, prerequisite learning capabilities are an essential part for students as it is their first opportunity to learn some content of IPTCT. They will have learned some of this content in middle school or high school. So, it is easy for IPTC teachers to elicit this content from the memory of students. However, it remains difficult for teachers to engage a learner's curiosity. Thus, in the design step for IPTC using micro-courses, it may be useful to give students more images and videos that show more information about the topic and that can allow students to contrast and compare opinions. It is also a reminder to make more material available or to show related knowledge and finally, to encourage student learning of IPTC and also to assist in the transfer from short to long term memory. In this aspect, micro-courses have more advantages over traditional textbooks as they are more vivid, active and may be easier to understand.

3.3.4 Presenting the Stimulus Material

For this particular event, it is relatively obvious that the proper stimuli be presented as part of the instruction events. Firstly, for the micro-course component of IPTCT, we should present stimulus materials that are either understood inductively or deductively with the IPTCT topic. For example, when designing the concept instruction, especially the philosophy concept, we should use a variety of examples before introducing the definition of the concept. What's more, the variety of materials or examples should be authentic. That's because authentic examples are more trusted by undergraduates, especially in the Ideological and Moral Education & Elements of Law. It is hard to imagine how inauthentic examples or a troublesome example of a phenomenon could give students good guidance or promote good behavior. Finally, the materials should as recent as possible. We all know that the latest news creates a strong impression on memory and also strongly impresses student consciousness. If teachers can design these types of stimulus materials for these types of events, the effect will be to the students' benefit.

3.3.5 Providing Learning Guidance

Guidance for learning is an event that may readily be adapted to learner differences. At the micro-course design stage, materials that IPTC teachers provide should guide students' learning efficiency. Hinting or prompting will vary according to different student types. For some students, less guidance is required, while others may need more. So teachers should be prepared to be more flexible in providing different levels of content that will suit individual learners' needs.

Micro-courses used in IPTCT provide more communication opportunities for learners, which is one function of the learning guidance approach. That is not to say this guidance based on micro-courses will provide answers to questions about the learning, but that they will presumably help students to combine subordinate concepts and tips in order to build new ideas. For students commencing IPTC studies, micro-course learning should help them to acquire knowledge out of class and in addition to the basic conceptual knowledge acquired in the classroom. From this perspective, micro-course contributes a lot to the efficiency of IPTC.

3.3.6 Eliciting the Performance

Eliciting the performance not only shows that students know how to learn, but also helps them to convince themselves of their own ability. Accordingly, this event uses the same stimulus materials that the learners have been interacting with all along. In the design of micro-courses for IPTCT, teachers can design in more tips intended to improve the performance of teaching. Meanwhile, all of these vivid images, videos, and information help to illustrate the learning process. Compared to other traditional methods, micro-courses used in IPTC show advantages in many aspects of teaching design.

3.3.7 Providing Feedback about Performance Correctness

Teachers need to be highly aware of overall feedback in IPTCT, as this plays an important part in understanding what students have learned in the classroom. There should be an effective feedback mechanism concerning student levels of understanding in IPTC. However, we should be aware that feedback for IPTCT is different from other knowledge courses, such as Physics or Chemistry, which includes attitudes, beliefs, viewpoints and values associated with the course material, which may be less explicit. Although there may be active and positive feedback from students about IPTCT through the micro-course teaching process, it is difficult to show its long-term effect on IPTCT. It is more explicit to the emotional, behavioral and other outcomes of IPTCT.

3.3.8 Assessing the Performance

Giving an assessment of learning outcomes is an essential step in the teaching design of IPTCT based on

micro-courses. How does the teacher know that the performance exhibited by the students is what the teacher aimed to achieve? Obviously, we should design a fair and suitable assessment of student learning performance in IPTCT. In fact, it is a little bit difficult to design IPTCT assessments in this kind of course. For other courses we could give a quiz to assess the outcomes of learning, but for IPTCT, we may use more flexible methods to provide an assessment. These methods should only be used if the teacher thinks that they could be effective in achieving his or her teaching aims. For example, a micro-course assessment could be a type of show or a kind of presentation given by the students. This means that the micro-course could save time for teachers and students by allowing them save more time to discuss, comment on the content and express their own ideas.

3.3.9 Enhancing Retention and Transfer

For IPTCT courses, it is important to recall knowledge and eventually transfer the learned abilities to other parts of a student's life. The process of retention and transfer of IPTCT concepts through micro-courses is easier than traditional teaching methods. If IPTCT teachers want to ensure that the transfer of learning has taken place, a variety of new tasks should be included in the course to test whether such transfer has occurred. Note that what students have been learning in the class should be clearly illustrated in the associated micro-course, otherwise contradictory views of the content may appear that may fail to improve the effectiveness of IPTCT. The inclusion of variety and novelty in problem-solving tasks are of particular relevance to the continued development of cognitive strategies in IPTCT, particularly when facing complex situations of social reality. Students could solve these problems using IPTC's ideas or opinions expressed in the classroom. So, when designing this part of the event, we should pay more attention to combine IPTCT with the lived reality of students.

*3.4 Micro-courses can Affect the Teaching Strategy Design of IPTCT*

Teaching strategy is typically a teaching method that is an essential part of teaching activities and also forms part of the implementation of the teaching task itself. Micro-courses used in IPTCT increase diversity and interaction between teachers and students, and students with each other. Firstly, the student-guided position has been designed into IPTCT. We know that student motivation can be active in changing old teaching models that are teacher-centered to student-centered, resulting in more time will saved and the teacher having more time communicate with students. Thus, students also have more time and opportunities to discuss some of the topics that they are interested in.

Secondly, traditional methods can be reversed. In the past, IPTCT teachers did more in classes, speaking and writing throughout lessons while students merely listened. Now, however, this has changed, as more interactions such as discussions, interviews, videos, and audio are used in the process of IPCT delivery based on micro-courses. So, when we design these types of events, we should add more flexible strategies that avoid emphasizing that the whole lesson was spoken and guided by teachers.

Thirdly, many education resources can be applied to the IPTCT and different ideas from students can be expressed in the classroom. The IPTCT aims to encourage the students to master the basic theories and methods of Marxism through the effective teaching of IPTC, so that students can express their ideas about IPTC topics and show their experiences in the classrooms, which will provide great opportunities for students to achieve their learning goals. That is because the designated goals of IPTCT will have been achieved, which are to enhance student learning and encourage the use of Marxism in their later life experiences, analyzing and solving problems, and ultimately improving their characters and personalities. Thus, teachers should give more opportunities to students expressing their ideas in classes.

Overall, the instruction strategy for IPTCT design is so important that teachers should focus on the teaching strategies of micro-course teaching design. From the instructional design point of view, we should thoroughly consider what active teaching strategies should be used to promote students learning within this unique form of micro-course teaching, and how a better understanding of the teaching content can be achieved in order to truly understand the essence of IPTCT.

*3.5 Micro-courses can Affect the Assessment Design of IPTCT*

Teaching evaluation is a part of the ultimate expression of teaching achievement. In the current educational situation, the main methods used in China are process evaluation or summative evaluation. Taking the special nature of IPTCT into account, students should pay special attention to moral, ethical and values evaluation. This aim cannot be achieved through one kind of exam or text, unlike evaluations used in other kinds of science courses. We cannot assess what moral level students have attained by conducting a single test. We also cannot know their viewpoint about the world, life and value by merely conducting a quiz. So, in teaching evaluation

design of micro-courses, the evaluation should change from traditional to a modern form of evaluation, which consist of multiple evaluations which combine process evaluation and summative evaluation.

The process of evaluation described above has many advantages in many aspects such as:

• Providing timely interactions and exchanges

• Greatly enhancing the timeliness, and

• Providing effective feedback to teachers.

During this process, teacher can change their evaluation plan and choose more effective methods to evaluate students. Therefore, in the design of micro-teaching courses, IPTC teachers should give special attention teaching evaluation.

## 4. Discussion and Conclusion

In this paper we have argued that micro-courses-based teaching design could improve the effectiveness of IPTCT in China and that, therefore, four key aspects emerged in this qualitative analysis. The first aspect was that building a good relationship between IPTC and micro-courses could improve teaching efficiency. The second aspect was that concept design and content design have important roles in overall teaching design. The third aspect was that event design of IPTCT based on micro-courses is vital to the process of teaching design, allowing it to be more flexible and effective. Finally, strategies and assessments through micro-course design can affect the effectiveness of IPTCT.

Based on what we have discussed, findings were clearly illustrated that the application of technology provident, like micro-course, add strengths and flexibilities on the IPTCT, and also provide opportunities to improve the IPTCT program, which has a special function in the context of Chinese education. During past teaching practices, we paid lots of attention to the teaching outcomes rather than teaching design. In other words, the application of micro-courses in the teaching design will become more useful and popular in the future.

Innovative and fundamental distinction described in this paper was summarized compared other researches. A special perspective on teaching design using micro-courses was illustrated through the whole research on the one hand. We did not deny however the important role student engaged for improving the effectiveness of IPTCT. The methods and ways were showed in every step in the teaching design on the other hand.

We therefore, suggest that greater consideration be given to micro-courses by IPTCT teachers, who would spend more time on designing teaching as instructional design and media technology development have an inextricably role that includes real challenges and threats in the Chinese education context, and the reporting of IPTCT research should be more explicit about the nature of the process engaged in. It also suggests that various kinds of design skills and/or theories conceptions further highlighted in the process design of IPTCT.

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# Identifying and Prioritizing Factors Influencing Success of a Strategic Planning Process: A Study on National Iranian Copper Industries Company

Shahrooz Kavousi[1] & Yashar Salamzadeh[2]

[1] Non-ferrous Industries Process, Engineering and Construction Company (NIPEC), Iran

[2] Faculty of Management, Farabi Higher Education Institute, Mehrshar, Iran

Correspondence: Shahrooz Kavousi, MBA Graduate, Non-ferrous Industries Process, Engineering and Construction Company (NIPEC), Iran. Tel: 98-91-3192-1418. E-mail: shahroozkavosi@yahoo.com

## Abstract

Nowadays, global economic activities are performed by medium and small-sized enterprises (SMEs). All these organizations seek success, knock the socks off rival companies and satisfy their customers' needs in a turbulent environment and a very competitive market. Strategic planning, in case of proper formulation and implementation, is an effective tool which can identify opportunities, threats, strengths and weaknesses of the organization so that more realistic goals can be set and implemented. National Iranian Copper Industries Company needs to prioritize its strategies due to structural evolutions in order to determine the budget and formulate short-term planning for them. So the present research examines and ranks these factors. Our research method is descriptive-survey and the sampling process is random. Population size is 180 and the sample size of 120 is calculated according to Cochran formula. This research categorized the factors using factor analysis. The results showed that success factors of Strategic Planning for this company were situated in four groups including administrative process, managerial process, inter-organizational culture and extra-organizational factors. Then the indicators were weighted and prioritized by means of Shannon's method and Topsis technique, respectively. Finally conclusions were provided according to the given priorities.

**Keywords:** planning, strategic management, strategic planning, copper industries, Iran

## 1. Introduction

The key role of management in the survival of organizations is undeniable. Establishing coordination, balance and interaction among various elements inside and outside the organization, recognizing the current situation of the organization and trying to reach an ideal situation as well as identifying the strengths and weaknesses, threats and opportunities are among the important factors that are realized in the light of strategic management (Smith & Jenkins, 2014). The impact of strategic planning on today's organizations is obvious and the use of it by managers can bring positive, long term outcomes to organizations. The main problem some organizations face is the lack of a strategic plan or failure to develop and implement it (Nemati & Khashei, 2013).

So it is necessary to study and identify the critical success factors and barriers of strategic planning in order to achieve the goals set and implement the planned strategies and programs. If the reasons of why strategies fail in the implementation stage were identified, a greater success in achieving strategic objectives by managers and organizations would be seen. Strategic planning, in case of proper formulation and implementation, is an effective tool in environmental studies which can identify opportunities, threats, strengths and weaknesses of the organization so that more realistic goals can be set and implemented. National Iranian Copper Industries Company (NICICO) needs to prioritize its strategies due to structural evolutions in order to determine the budget and formulate short-term planning for them. So the present research examines and ranks these factors.

Now the question is; why strategic plans aren't implemented successfully or it is difficult to pass the implementation step and what are the reasons? So considering the aforementioned, it is important to discuss the reasons and barriers leading to poor outcomes from strategic planning, of why sometimes strategic plans cannot be implemented successfully and what are critical success factors of strategic planning? Recognizing these factors can be useful in the successful implementation of strategic plans and will contribute to its growth and

development. This research emphasizes on identifying and prioritizing critical success factors of strategic planning with a focus on an industrial group in the country.

## 2. Theoretical Framework

### 2.1 Planning

Planning is not only a decision-making process but also a clarification and definition process of facts and differences between them; in other words it is a kind of evaluation process at the end of which the facts evaluated are selected. There are many definitions of strategy; strategy is a program, position, behavior pattern, perspective, policy or decision that shows the organization's direction and visions. Strategy can be defined under organizational levels, tasks and different time limits (Sener, 2012).

### 2.2 Strategic Planning

Strategy is indeed the general roadmap selected by senior managers for directing the organization toward the main goals. It is clear that this decision plays a definite role in the fate of the organization. Strategy is also the main objectives of the organization and the way to achieve them (Alberchts, 2006). Strategy derives from the company's goal and vision and is at the heart of it. Strategic plans are often associated with parallel implementation plans that summarize responsibilities, timelines, resources requirements and operational and organizational changes required to incorporate into strategic plan initiatives. The term "strategic planning" is often considered as a collective term covering all these aspects which is quite reasonable (Fidler, 2002). Strategic planning is a developed way focusing on the establishment of a common vision among stakeholders to share company information. Strategic planning is a documented structure involving related issues and provides a prediction case of the future of the company. Environmental trends also shape and influence the requirements and expectations of information sharing program. They are intended to look forward with the aim of identifying potential factors that may affect the program's objectives. Identification of environmental trends helps decision makers to understand key external factors (Jacobson, 2014).

Strategic planning is the process of defining an organization's programs to achieve its mission. An organizational strategy is a derivative approach for achieving this mission. The product of a strategic planning effort is typically a document (strategic plan) examining a high-level strategy and explains the elements that influence it- it is a complete description of the organizational environment and goals (Cassidy, 2006). Figure 1 indicates typical strategic planning elements and their relationship
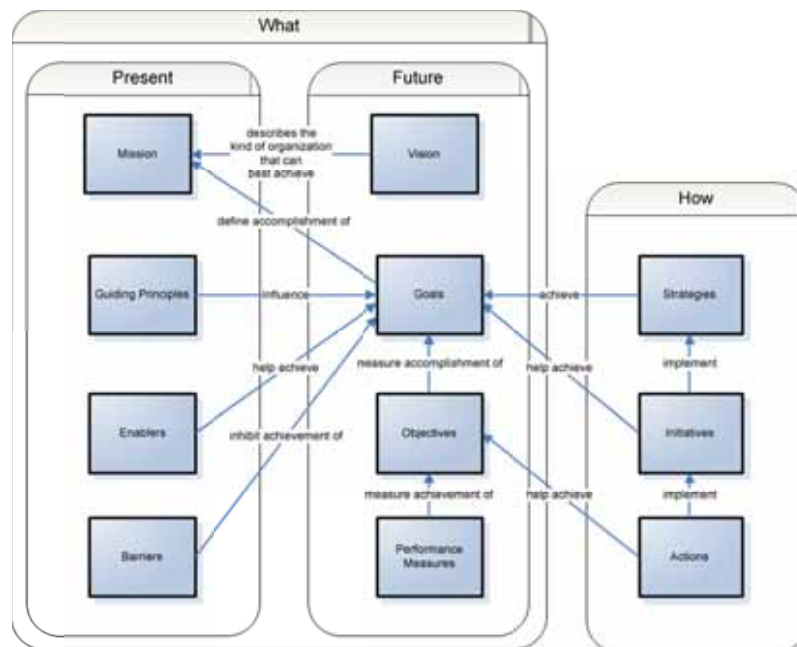


Figure 1. Typical strategic planning elements [USPS, 2000]

### 2.3 Strategic Planning Model

There are different well known models in the strategic management and planning of organizations including

Tyler comprehensive strategic planning model, Ward policy, negative strategic planning model, Kornj and Lavenj strategic planning system and Daitmn, Mintzberg, Dait, Hill, Piglez, Roger, David, Piers and Robinson, Violin and Hunger, Efa, Bryson and Alston & Blue Ocean models. Due to the large number of models only Bryson and Alston models will be explained.

Bryson and Alston strategic planning model: in 2005 Bryson and Alston suggested their model for strategic planning and management of organizations. The model is actually the extended model of their 1995 model. Bryson and Alston strategic planning model generally addresses three questions: a) who and what are we and what are we doing and why? b) What are we going to do in the future and why? c) How do we want to go from current to desired situation? There are four stages or phases in this model each one has its own steps consisting of activities and information which include: 1. Organizing the planning process and environmental analysis; 2. Identifying and analyzing strategic issues; 3. Developing strategies and operational strategies; 4. Implementing strategies (Bryson & Alston, 2005, p. 85).

*2.4 Strategic Planning Approach*

To develop a strategic planning, three basic steps can be taken into account based on which the strategic plan is planned and implemented. The three steps include: First step: defining the topic as an organization (where are we now?). Second step: what do we want to be in the future (Where are we going?). Step Three: developing an approach to reach the goal and implementing it.

Table1. Strategic planning key skills, values and consultation principles (C.D.C, 2007)

| Skill set | Values | Consultation principles |
|---|---|---|
| Containment—demonstrating patience and good listening skills to the needs of the community instead of immediately offering one specific idea or option | Action-oriented—prioritize issues to focus energy and attention to ensure progress | Consultation is based on the application of evidence-based strategies, best practices, and theories, focuses on the future |
| Supportive attitude—encouraging others to have faith in their own ability to be successful | Human relationships—relationships are an important vehicle for change | Outcomes can be achieved many different ways, each with risks and benefits |
| Diagnostic—asking a series of questions, laying aside assumptions to fully understand the underlying issues and developing solutions to best suit each situation | Stewardship—manage time, funds, and priorities with a sense of personal responsibility | Present a multiplicity of options for community consideration |
| Systems thinking—seeing the big picture, interconnectivity, relationships, and boundaries | Strength-based—all communities have strengths and competencies | Communities are at different places and have different needs |
| Persuasion—articulating the importance of ideas and strategies so others share the motivation to implement them | Peer-to-peer—connect programs to learn from each other | Community programs are the experts on their community |
| Problem solving—recognizing indications of problems, gathering information, analyzing situations, reaching conclusions, and working with others | | Exercise community's critical thinking skills within a community resources and opportunities context |
| Marketing and product development—understanding audience and tailoring approaches and messages to motivate and enhance knowledge and skills of others to lan and implement evidence-based strategies and best practice | | Interactions are culturally competent |

Strategic planning development has been always a process and development of planning through individual consultation programs with communities. During this process, planners linked the community programs with other communities who were developing or had previous achievements had similar efforts. Contribution to strategic plan development and implementation, identification of the steps required to achieve the indicator results over time, development of options that fit with the community and will achieve the objectives, specific structure, and measurable annual objectives that evidence progress ensure that the objectives will move the indicator outcomes. The role of employees' participation in the process of strategic planning at different levels of organizational hierarchy has been featured by some studies (lederer & salmela, 1996).

### 2.5 Strategic Planning Properties

Strategic planning process is essentially a process of coordination between internal resources and external opportunities. The purpose of this process is looking through a strategic lens and set opportunities the organization benefits them or responds to them. Thus, the strategic planning process is a management process including coordination of organizational capabilities with the existing opportunities. Such opportunities are determined over time and are investigated whether to invest the organizational resources in them or not. Strategic planning involves several advantages including:

- Anticipate potential problems before they happen.
- Identify and respond to changes.
- Determine any need required for redefining the organization.
- Provide a good foundation to reach the preset goals.
- Help managers to have a clearer understanding of the organization.
- Make it easier to spot the future market opportunities.
- Provide a purposeful vision of management issues.
- Offer a review framework for implementing the plan and controlling activities.
- Help managers to make major decisions associated with the goals set.
- Allocate the resources and time to the identified opportunities in the most effective way.
- Coordinate the implementation of tactics that complete the plan.
- Minimize the time and resources devoted to incorrect decisions with no long term vision.
- Create standards for internal communications among employees.
- Arrange priorities in terms of chronological order of plans.
- Give the organization competitive advantages.
- Provide a basis for establishing individual responsibility leading to increased motivation.
- Encourage forward thinking.
- Provide incentives for people in the organization to respond the problems and opportunities in a coordinated and integrated way (Sener, 2012).

### 2.6 Formulating and Designing a Strategy

Formulating a strategy is important for adding value to shareholders and to fulfill the needs of stakeholders. At the same time strategy, processes and capability should be interrelated. Formulated strategies can't be implemented without appropriate process and capabilities such as committed employees and written methods (Sari, 2014). In today's complex business environment and increased competition in the existing markets, routine management decisions can't provide a successful path for companies. Previously, management decisions were taken based on annual goals and the needs and demands of shareholders, while in today's complex world of business such decisions make the company far off the success. What is of utmost importance now for managers of all companies is decision-making process and the information needed to make a proper decision that can bring the company close to its objectives. One of the methods and concepts that can be very useful if used properly is strategic management. Strategic management is the art and science of making decisions that will determine the future direction of the organization. This orientation is the basis for many decisions the manager should deal with in the best way (Paul & Richard 2013).

Generally strategic planning consists of three main steps:

> ➢ formulating a strategy
> ➢ implementing a strategy
> ➢ assessing a strategy

The three together can lead to numerous and comprehensive results and benefits for strategic planning. As it is clear for everyone, none of these three is of a higher priority than the other. Although formulating a strategy is fundamental, even the best strategies fail if they would not be implemented successfully (Grunig & Kuhn, 2011). The steps of the strategy is shown in Table 2. Assessment of a strategy is important too since strategic planning and organizational analysis and contribution to improving it, is a permanent task which is a circle that must be repeated constantly and finally result in profitability and other corporate purposes. So assessing a strategy is crucial for the next stages, because repeating a mistake can't be compensated at all (Malinda, Sara, & Andrew, 2015: S18).

Table 2. Steps of implementing strategies

| Special Step | Tasks |
|---|---|
| -Creating a structure which support implementation of strategies<br>-Reinforcing skills and capabilities on which strategies are planned<br>-Positioning most appropriate people for occupations in organization | Creating an organization which can implement the strategies |
| -Being sure that financial resources are allocating to units in appropriate to their contribution of strategic role<br>-Being sure that consuming resources(inputs) will cause desires outputs | Providing financial resources (budgeting) which can support strategies |
| -Developing and managing policies and procedures that facilitate implementation of strategies<br>-Creating operational & administrative systems which can empower strategies | Establishing inter support units |
| -Motivating people and units for implementation of strategies<br>-Designing remunerations can cause optimal level of performance<br>-Encouraging tendencies for achievement of aims | Innovating motivation and remunerations in close relationship with objectives and strategies |
| -Creating common values<br>-Defining ethical criteria<br>-Creating a workplace which support strategies<br>-Creating highly achievement motives in culture of organization | Forming organization's culture to adjust strategies |
| -leading process of value formation, culture development, and empowering implementation and strategy improvement | Performing leadership strategies |

Shared understanding of middle management and those at the operational level to the top management is of critical importance to effective implementation (Rapert, Velliquette, & Garretson, 2002). Strategy implementation effort may fail if the strategy does not enjoy support and commitment by the majority of employees and middle management. This may be the case if they were not consulted during the development phase (Heracleous, 2000).

It is clear that a poor or vague strategy formulation process can limit implementation efforts significantly. Good execution cannot overcome the shortcomings of a bad strategy or poor strategic planning effort (Hrebiniak, 2006). Table 3 shows the key variables affecting the implementation of the strategic planning of previous studies.

Table 3. The key implementation variables of strategic planning from previous studies (Al-Kandi, Asutay, & Dixon, 2013)

| Author(s) | Variables |
|---|---|
| Stonich (1928) | Formulation, structure, cultural, planning, resource allocation, people, outcomes. |
| Hrebiniak & Joyce (1984) | Formulation, structure, people, control and feedback |
| Galbraith & Kazanjian (1986) | Structure, people, planning, communication, outcomes |

| Author(s) | Variables |
|---|---|
| Hamhavek & Cannella (1989) | Structure, people, rewards, resource allocation, internal and external communication |
| Thomson & Strickland (1995) | Formulation, structure, cultural, planning, resource allocation, people, communication. |
| Waterman et al. (1980) | Formulation, structure, cultural, resource allocation, people, communication |
| Pettigrew and Whipp (1991) | Structure, cultural, resource allocation, people, environment, leadership |
| Skivington and Daft (1991) | Formulation, structure, resource allocation, people, communication. |
| Schmelzer (1992) | Context variables (environment, formulation, structure, cultural) process variables (operational planning, people, resource allocation). |
| Bryson & Bromiley (1993) | Environment, cultural, resource allocation, people, communication, outcomes. |
| Kargar & Blumenthal (1994) | Formulation, structure, cultural, planning, resource allocation, people, communication. |
| Miller (1997) | Environment, formulation, structure, cultural, operational planning, resource allocation, outcomes. |
| Ghamdi (1998) | Environment, resource allocation, communication, leadership, people. |
| Okumus (2001, 2003) | Content, context, process, outcomes |
| Ali & Hadi (2012) | Personnel, planning, management, organization, external factors |

*2.7 Factors Affecting Successful Strategy Implementation*

According to the research conducted in 2009 according to strategic planning experts' viewpoints, the following factors were identified as the main factors affecting the success of a plan (Stevan, Holmberg, & Cummings, 2009).

*2.8 Review of Literature*

A research was conducted to identify the critical success factors of business process management. In this study, the most important factor in the business process management is considered fitting with known environmental factors (Peter, 2010). A research was carried out titled as planning features for automotive products development using AHP-FUZZY technique; in this study attributes of customer satisfaction were identified as the most important factor in planning for automotive products development (Bimal & Alper, 2010). In a study conducted, the critical success factors of strategic planning were found as manager partnership, emphasis on creating databases, follow-up after defining strategies, balancing between budgets and planning in the implementation of the strategy (Hensey, 1991). In a study three success factors of strategic planning were pointed out, including identifying realistic goals, identifying needs to achieve goals and providing time and personnel to implement the strategic plan (Johnson, 2007). Kaplan and Norton (2005) pointed out that 95% of employees neither aware nor understand strategies of the organization. Johnson (2004) also believes that 66% of organizations' strategies are not applicable. In many cases, due to weak strategy and the ideas behind them many valuable strategies face the problem and failures in the implementation stage. In fact the main challenges in strategic management is implementing the strategy rather than developing it. Quinn (1981), Peters and Waterman (1982) and Cowherd and Luchs (1988) believe that critical success factors of the strategy include organizational structure, organizational culture, information and communication technology and reporting systems, incentives and rewards, providing adequate resources, decision-making process, effective communication, training, ability and skills. A few other researchers also examined the factors influencing successful implementation of strategies.

In a research conducted by Phillips and Moutinho (2014), a proper strategic planning for developing tourism industry as a foundation needs high investment, long term framework. This requires formulating a strategy for shaping the opportunities for competitive advantage and offering a direction for shareholders. Important decision-makings need to involve multiple-purpose shareholders. Strategic planning can contribute by collaborative method.

**3. Method**

Since the research data was collected and analyzed in a specified time period and the results changes over time weren't taken into account, time horizon of the study is a single sectional. The strategy of the research is eventually causal. Since in descriptive research the characteristics of the study population can be evaluated

through surveys, the present research is a descriptive, survey research and because the researcher is present in real-life situations of the organization so the research is considered among field studies.

### 3.1 Research Questions

What are the critical success factors of strategic planning in National Iranian Copper Industries Company?

### 3.2 Statistical Population

Sarcheshmeh Copper Mines Joint Stock Co of Kerman was formed in 1972 and later in 1976 it was renamed as National Iranian Copper Industries Company to involve all copper mines operations throughout the country. Since 2002 and with the establishment of Iranian Mines and Mining Industries Development & Renovation organization, National Iranian Copper Industries Company was introduced as one of its headquarters and continued its activities within the framework of the Commercial Code by changing the Constitution. Company activities include exploration and exploitation of cooper mines, production of high-grade products of copper ore and copper metal and their distribution and sales, partnership and participation in investment projects related to the copper industry and carrying out all operations and financial transactions and trade and services that directly or indirectly related to any of the issues described above both internal and external. This company has numerous responsibilities to do including extraction and utilization of copper mines, production of copper concentrates and manufacturing copper products such as cathodes, slabs, billets and 8mm wire rods. Sarcheshmeh and Miduk mines in Kerman province and Sunegoon mine in eastern Azarbaiejan province are of the most significant copper mines in the country. The statistical population of the study was senior experts and senior managers of National Iranian Copper Industries Company. Population size is 180 and sample size is equal to 120 using Cochran Formula.

### 3.3 Measurement Instrument

A questionnaire was used to measure the variables of the research. Therefore, a number of key factors were collected to set the questions of the questionnaire through conducting a series of interviews with experts beside a deep review of Literature.

### 3.4 Validity and Reliability

Before using the measuring instrument, they should be adjusted under validity and reliability tests. The validity of the study was reviewed initially by collecting the views of experts and counseling professors and several management experts; the questionnaire was finalized by removing some of the questions and the reforms performed. To ensure the reliability of the measuring instrument, Cronbach's alpha coefficient was used with the result of 0.930 which demonstrates good reliability of the measuring instrument because according to Notably, Nunnally and BernStein (1994) alpha coefficient more than 70% indicates good reliability (Chang & Chieng, 2006).

Since the researcher himself requested applicants to fill in the questionnaire, it was expected that about 80% of questionnaires were of correct information and applicable. Of 150 questionnaires 120(80%) were able to be used and 30 were excluded. So response rate was good and covered sample size completely.

### 3.5 Data Analysis

In order to analyze the statistical data of the present study, first data resulted from the existing documents available in the company were examined. Also, since the researcher have used questionnaires to collect other information so, in order to analyze data, first data was extracted from the questionnaires and set in the general information table or mother table. Then all data and information were analyzed using computers and the statistical software SPSS 19 in descriptive and inferential methods. So first demographic variables and representative indices of the research variables were described then data was analyzed and the hypotheses were tested.

#### 3.5.1 Shannon Entropy Method

In multi-criteria decision-making problems and in particular multi-attribute decision-making problems, having and knowing the relative weights of indices is an effective and required step in the problem-solving process. Among determination methods of index weight, the use of experts responses, LINMAP method, least squares method, eigenvector technique, Shannon's entropy can be mentioned (Ming, 2008). In the present research, Shannon's entropy method as one of the most famous weighing methods was employed for weighing indices.

First, we calculate a value denoted by E:

$$E = -\sum_{i=1}^{n} [P_i \cdot Ln_{P_i}]$$

(1)

where k is a constant and positive number. To ensure that F is between zero and one, E is calculated by probability distribution (Pi) based on statistical mechanics, and its value is maximum in case of equality of Pi.

$$-K\sum_{i=1}^{n} p_i \cdot Ln\, p_i = -k\left\{\left(Ln\frac{1}{n}\right)\left(\frac{n}{n}\right)\right\} = -kln\frac{1}{n}$$

(2)

A decision-making matrix from a multi criterion decision-making model contains information that entropy can be used as an evaluation benchmark. A decision making matrix can be considered as follow:

|  | $X_1$ | $X_2$ | . | . | $X_n$ |
|---|---|---|---|---|---|
| $A_1$ | $r_{11}$ | $r_{12}$ | . | . | $r_{1n}$ |
| $A_2$ | $r_{21}$ | $r_{22}$ | . | . | $r_{2n}$ |
| . | . | . | . | . | . |
| . | . | . | . | . | . |
| . | . | . | . | . | . |
| $A_m$ | $r_{m1}$ | $r_{m2}$ | . | . | $r_{mn}$ |

Information content of the matrix is first as follows (Pi,j):

$$p_{ij} = \frac{r_{ij}}{\sum_{i=1}^{m} r_{ij}}; \; \forall i,j$$

(3)

And for Ej of Pi,j set for each characteristic, we have:

$$E_j = -K\sum_{i=1}^{m} [p_{ij} \cdot Ln\, p_{ij}]; \forall j$$

(4)

Now, uncertainty or deviation (dj) from information provided for jth index is:

$$d_j = (1 - E_j); \forall j°$$

(5)

And finally, for weights of indices we have:

$$w_j = \frac{d_j}{\sum_{i=1}^{n} d_j}; \; \forall j$$

(6)

Table 4. Shannon entropy

| K | 0.314658 | | |
|---|---|---|---|
| Ej | 0.952922 | 0.952922 | 0.976461 |
| Dj | 0.047078 | 0.047078 | 0.023539 |
| Wj | 0.4 | 0.4 | 0.2 |

3.5.2 TOPSIS Method

This method was developed in 1981 by Hwang and Yoon in which m options are evaluated by n indicators and any problem can be considered as a geometric system containing n points in an n-dimensional space. The technique is relied on the concept that the selected option should have minimum distance to the positive ideal solution (best case scenario A+i) and maximum distance from negative ideal solution (worst case scenario A-i).

Topsis is relied on the notion that the choice should be closest to the positive ideal solution and furthest to the negative ideal solution.

In this method m options are evaluated by n indicators and any problem can be considered as a geometric system containing n points in an n-dimensional space.

The method has six steps:

Step 0: construction of decision matrix; a decision matrix including m options and n indicators is evaluated.

Ai: ith option, Xij: numerical value obtained from ith option and jth indicator

In this matrix, the indicator with positive utility is profitability and the indicator with negative utility is cost.

Step 1: normalization of decision matrix; in this step, we de-scale the scales present in decision matrix. We divide each of the values by vector size of that index.

As a result, each element of rij is obtained by the following equation:

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}}$$

(7)

Step2: assigning weights to normalized matrix

❖ Decision matrix is in fact parametric and needs to be quantitative so decision maker determines a weight for any weight index.

❖ Sum of weights (w) is multiplied by normalized matrix (R).

$$\sum_{j=1}^{n} w_j = 1 \qquad W = \left( w_1, w_2, \ldots, w_j, \ldots, w_n \right)$$

(8)

Since the matrix Wn*1 can't be multiplied by normalized decision matrix (n*n) so before multiplying weight matrix should be converted into diagonal matrix Wn*n. (weights on the main diagonal).

Step 3: Determination of ideal solution and negative ideal solution.

Two virtual choices A* and A⁻ are defined as follow:

Positive ideal choice: $A^* = \left\{ \left( \max_i v_{ij} | j \in J \right), \left( \min_i v_{ij} | j \in J' \right) | i = 1,2,\ldots,m \right\} = \left\{ v_1^*, v_2^*, \ldots, v_j^*, \ldots, v_n^* \right\}$

Negative ideal choice: $A^- = \left\{ \left( \min_i v_{ij} | j \in J \right), \left( \max_i v_{ij} | j \in J' \right) | i = 1,2,\ldots,m \right\} = \left\{ v_1^-, v_2^-, \ldots, v_j^-, \ldots, v_n^- \right\}$

js related to profitability indicator $\rightarrow j = \{j = 1,2,3,\ldots,n\}$

js related to cost indicator $\rightarrow j' = \{j = 1,2,3,\ldots,n\}$

The two virtual choices are in fact the best and the worst solutions.

Step 4: calculation of distances

The distance between each n-dimensional choice is measured by means of Euclidean method that is the distance of choice is found from positive and negative ideal choices.

$$S_{i-} = \sqrt{\sum_{j=1}^{n} \left( v_{ij} - v_j^- \right)^2} \qquad i = 1,2,3,\ldots,m$$

(9)

$$S_{i*} = \sqrt{\sum_{j=1}^{n} \left( v_{ij} - v_j^* \right)^2} \qquad i = 1,2,3,\ldots,m$$

(10)

Step 5: calculation of the relative closeness to the ideal solution. This measure is obtained from the following formula:

$$0 \prec C_{i*} \prec 1 \tag{11}$$

$$C_{i*} = \frac{S_{i-}}{S_{i*} + S_{i-}}$$

It is seen that if Aj=A* then Ci*=1 and if Aj=A- then Ci*=0.

It is clear that the shorter the distance of Ai choice from ideal solution, the closer the relative closeness to 1.

Step 6: ranking of choices

## 4. Results

This section presents all statistical results of our research and starts with Table 5 which shows the indicator ranks.

Table 5. Ranking and prioritizing indicators

| Rank | Closeness to Positive Ideal | Indicator |
|---|---|---|
| 1 | 0.903346285 | Too wide viewpoint in strategic planning process |
| 2 | 0.86049262 | Senior managers awareness of strategic planning |
| 3 | 0.86049262 | Change management in strategic planning process |
| 4 | 0.86049262 | Senior managers awareness of knowledge and importance of strategic planning |
| 5 | 0.86049262 | Supporting team participation of employees in strategic planning process |
| 6 | 0.86049262 | Attachment to past strategies in strategic planning process |
| 7 | 0.86049262 | Marketing and product perception development |
| 8 | 0.86049262 | Persuading employees to implement strategic planning |
| 9 | 0.832573332 | Excessive diversification in strategic planning process |
| 10 | 0.829718421 | Obtaining senior managers participations in the strategic planning process |
| 11 | 0.801523123 | Institutionalization of team participation of employees in strategic planning process |
| 12 | 0.795229817 | The possibility of replacing inefficient managers in strategic planning process |
| 13 | 0.777996229 | Proper training of employees in strategic planning process |
| 14 | 0.770006986 | Accurate methodology and framework for strategic planning |
| 15 | 0.770006986 | Sharing the strategy with others |
| 16 | 0.769839243 | Existence of databases and management information systems |
| 17 | 0.76528719 | Organizational obligation to strategic planning process |
| 18 | 0.752673514 | Personal extreme commitment to other activities or participation uncertainty in implementation |
| 19 | 0.747453384 | The presence of similar organizations for benchmarking |
| 20 | 0.733434712 | Patience and good listening skills in implementing strategic planning process |
| 21 | 0.717109373 | Organizational commitment to strategic planning process |
| 22 | 0.717109373 | Coordination between internal resources and external opportunities |
| 23 | 0.712868987 | Employees admission in strategic planning process |
| 24 | 0.700504653 | Appropriate environmental assessment in strategic planning process |
| 25 | 0.700504653 | *Bureaucratic* decision-making in strategic planning process |
| 26 | 0.685511481 | Supportive attitude and encouragement of staff to implement strategic planning |

| Rank | Closeness to Positive Ideal | Indicator |
|------|------|------|
| 27 | 0.658662769 | Involving employees in strategic planning |
| 28 | 0.642418814 | Financing through attracting investors and partnership projects for implementing strategic planning process |
| 29 | 0.642418814 | A system for accurate assessment of performance |
| 30 | 0.642418814 | Senior managers skills in strategic planning |
| 31 | 0.642418814 | Holding different courses for senior managers to increase their knowledge of strategic planning |
| 32 | 0.634972202 | Transferring strategic planning process to other organizations |
| 33 | 0.634972202 | Regulatory devices in strategic planning process |
| 34 | 0.600690862 | Formulating a strategy for the opportunity for competitive advantage |
| 35 | 0.59170049 | Encouraging forward thinking in strategic planning |
| 36 | 0.568304024 | Flexibility in strategic planning |
| 37 | 0.516084893 | Highlighting the needs in order to achieve the goals |
| 38 | 0.463231778 | Consensus between middle and senior managers |
| 39 | 0.432348653 | Creating incentives for implementing strategic planning |
| 40 | 0.417246813 | Senior management support for implementing strategic planning |
| 41 | 0.363673169 | Appropriate resource allocation in strategic planning |
| 42 | 0.348591423 | Balancing the budget and planning for strategic implementation |
| 43 | 0.337157165 | Observing ethical standards in strategic planning |
| 44 | 0.254429389 | Alignment of employees' beliefs and values with strategy implementation |

*4.1 Factor Analysis Test*

The main purpose of using factor analysis is reducing data size and determining the most important variables affecting the formation of phenomena. When researchers face with a large number of variables, they seek to reduce the number of variables and form a new structure for them in order to analyze data more accurately and obtain more scientific and operational results. So, factor analysis method is used. Factor analysis attempts to identify the main variables or factors to explain the pattern of correlations between the observed variables.

*4.2 Bartlett Test*

Bartlett's test sig value less than 0.05 indicates that factor analysis is a suitable model to identify the structure. KMO value is 0.854 and since it is close to one, is sufficient for factor analysis.

Table 6. Bartlett test

| KMO and Bartlett's Test | | |
|------|------|------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .854 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 4029.754 |
| | Df | 990 |
| | Sig. | .000 |

Total Variance Explained

✓ Initial Eigenvalues: related to eigenvalues and determine factors their eigenvalues are greater than one and factors less than one are excluded from the analysis.

✓ Extraction Sums of Squared Loadings: related to eignevalues without rotation.

✓   Rotation sums of Squared Loadings: indicate eigenvalues of extracted factors with rotation. In this table four factors are more than one. These four factors account for 95.366% of variability of variables.

Table 7. Total variance explained

| Component | Initial Eigen values | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 26.219 | 56.997 | 56.997 | 26.219 | 56.997 | 56.997 |
| 2 | 8.122 | 17.657 | 74.653 | 8.122 | 17.657 | 74.653 |
| 3 | 7.579 | 16.477 | 91.130 | 7.579 | 16.477 | 91.130 |
| 4 | 1.948 | 4.236 | 95.366 | 1.948 | 4.236 | 95.366 |
| 5 | .895 | 1.947 | 97.313 | | | |

Component Matrix a: indicates component or non-rotated factor matrix, including factor loadings of each variable in the four remaining factors.

Rotated Component Matrix a: indicates component or rotated factor matrix, including factor loadings of each variable in the four remaining factors. The higher the absolute value of these factors, the more significant role the respective factor will play in total change of the desired variable.

Table 8. Classification of factor analysis results

| Mainstream | Subgroup | Row |
|---|---|---|
| Administrative process | Change management in strategic planning process | 1 |
| | Appropriate environmental assessment in strategic planning process | |
| | Existence of databases and management information systems | |
| | ***Bureaucratic*** decision-making in strategic planning process | |
| | Excessive diversification in strategic planning process | |
| | Attachment to past strategies in strategic planning process | |
| | Too wide viewpoint in strategic planning process | |
| | Transferring strategic planning process to other organizations | |
| | Working procedure pace and quick response | |
| | Regulatory devices in strategic planning process | |
| | Existence of adequate laws, regulations, rules, guidelines and standards | |
| | A system for accurate assessment of performance | |
| | Accurate methodology and framework for strategic planning | |
| | Personal extreme commitment to other activities or participation uncertainty in implementation | |
| | Balancing the budget and planning for strategic implementation | |
| | Highlighting the needs in order to achieve the goals | |
| | Involving employees in strategic planning | |
| | Appropriate resource allocation in strategic planning | |
| Managerial | Obtaining senior managers participation in the strategic planning process | 2 |
| | The possibility of replacing inefficient managers in strategic planning process | |
| | Formulating a strategy for the opportunity for competitive advantage | |
| | Senior managers skills in strategic planning | |
| | Holding different courses for senior managers to increase their knowledge of strategic planning | |
| | Senior management support for implementing strategic planning | |
| | Consensus between middle and senior managers | |

| | | |
|---|---|---|
| Intra-organizational culture | Senior managers awareness of knowledge and importance of strategic planning | 3 |
| | Institutionalization of team participation of employees in strategic planning process | |
| | Organizational commitment to strategic planning process | |
| | Employees admission in strategic planning process | |
| | Organizational culture in strategic planning process | |
| | Organizational structure in strategic planning process | |
| | Proper training of employees in strategic planning process | |
| | Supportive attitude and encouragement of staff to implement strategic planning | |
| | Persuading employees to implement strategic planning | |
| | Sharing the strategy with others | |
| | Creating incentives for implementing strategic planning | |
| | Encouraging forward thinking in strategic planning | |
| | Flexibility in strategic planning | |
| | Observing ethical standards in strategic planning | |
| | Alignment of employees' beliefs and values with strategy implementation | |
| Extra-organizational | Financing through attracting investors and partnership projects for implementing strategic planning process | 4 |
| | Taking advantage of external environment factors (such as related conferences and seminars) | |
| | The presence of similar organizations for benchmarking | |
| | Coordination between internal resources and external opportunities | |

## 5. Discussion

Too wide perspective in the strategic planning process and senior manager's awareness of planning knowledge and change management in the strategic planning process as well as their knowledge of the importance of strategic planning and team participation of employees in strategic planning process are considered among the important and effective success factors of strategic planning. In this study, factors were categorized using factor analysis. In this study, factors were categorized using factor analysis The results showed success factors in the company are located in four groups: the first group, the administrative process, including, change management and proper evaluation of environmental strategic planning process, the database and is too bureaucratic decision-making and diversification. The second group management, that factors such as the participation of senior managers, to replace inefficient managers and strategy for the company on opportunities for competitive advantage The third group of senior managers' knowledge of science and the importance of culture within the organization that require planning and organizational commitment to the strategic planning process and includes the reception staff. The fourth group of external factors such as financing through attracting investment and benefiting from external environmental factors and coordination between internal resources and external opportunities were placed in subgroups. Briefing sessions for managers to identify the importance, scope, objectives and approaches of strategic planning can also contribute to the success of this program. Holding such meetings can increase senior managers' awareness of the subject and ensure their commitment to this project leading to allocation of sufficient organizational resources and overcoming the barriers. Establishing committees consisting of key executives would highlight their presence in the successful implementation of strategic planning leading to a uniform strategic planning project team by providing an opportunity for training those involved in strategic planning on inter-organizational operations and processes. Oversight role played by senior managers as key members of strategic planning project will lead to the realization of goals and solve potential conflicts. Official announcement of strategic planning by the highest corporate authority to all heads of divisions might capture their commitment so they allocate sufficient organizational and financial resources facilitating the achievement of the project goals and reveals its importance among employees.

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# Weight-Loss Advertisements and the Weight-Loss Fashion in China

Kaiwei Yan[1]

[1] China West Normal University, Nanchong, Sichuan Province, China

Correspondence: Kaiwei Yan, School of Foreign Languages, China West Normal University, No.1 Shida Rd., Shunqing District, Nanchong, Sichuan Province, 637002, China. E-mail: 10058733@qq.com

## Abstract

With the social and economic development in China, weight-loss advertisements have become an essential part of people's daily life and the weight-loss fashion can be seen everywhere. Both the advertisements and fashion fall into the category of culture and thus there exist some close relationships between them. Weight-loss advertisements create and guide the weight-loss fashion, and exert great influence on its development. This paper begins with some background information and then tries to explain the relationships between weight-loss advertisements and the weight-loss fashion, the harmfulness of and reasons for following the weight-loss trend blindly. Lastly we proceed to the regulation of weight-loss advertisements and other measures to combat those issues and ensure the healthy development of the weight-loss fashion.

## 1. Introduction

With the rapid development of economy in China and the rise of people's living standards, more and more new advertisements appear and enrich people's daily life. Advertisements, which bear such purposes as promoting sales, recommending products and advocating social morals are ubiquitous. They impress us so much before we know it. Overwhelming advertisements appear out of every corner of the society and dominates people's life. With the help of modern media, advertisements have great effects on people. "In the process of business dissemination, advertisements not only have complicated relationships with culture, but also have affected so many aspects of the cultural construction and development." (Zhang, 2002)

In the second half of the 20th century, advertisements make full use of culture in business dissemination. Then, advertising culture emerges as the time requires. The so-called advertising cultures refer to universal ethical principle orientation in information dissemination and patterns that guide people's behaviors. Advertising culture is mass culture and it's commercial. (Zhang & Xiao, 2005) But because of the contradiction between social benefits and commercial benefits, advertisements do more harm than good to social culture. And fashion highlights advertising culture with the sustained and rapid development of economy. Looking around, you will find almost everything concerned with fashionable goods. Where there are advertisements, there is relevant fashion. "To a certain degree, advertisements affect social culture via fashion." (Zhang & Xiao, 2005)

## 2. Relationship between Weight-Loss Advertisements and the Weight-Loss Fashion

### 2.1 Current Situation of Weight-Loss Advertisements

As Asia Times reported, Chinese government once did a survey about the state of nutrition and health in 2015. It shows that, there is one person who is overweight in every five people, and there is one person who has exceeded the standard of obesity. When we consider the whole population, about 2 billion people are overweight, and at least 90 million are obesity patients (Note 1). As a result, a high-profit industry --- weight losing industry is booming. Chinese health-care products market started in 1992, and by 2014, weight-loss products have taken almost half of health-care market (Note 2). As those ads emerge in different kinds of media, a variety of crises appear, among which the crisis of belief is the most serious. The main reason is that there is so much false information in the ads. For example, some ads may claim that people can lose weight successfully in a short period of time, but it often proves untrue. Sometimes they use fake authoritative institution to disseminate pseudoscience. Some ads assert that if there are no effects after using the products, you can have a refund. But often the case is that you will never get a penny back. (Zhang, 2013) For the lack of efficient supervision over weight-loss advertising in China, this phenomenon exists ubiquitously.

*2.2 Development of the Weight-Loss Fashion*

In the 1990s, the weight-loss fashion stepped into people's life gradually. Ways of losing weight are becoming more and more diverse and the number of those people is on the rise.

In the long feudal society, agricultural production dominates the economy. Production is restricted by social-economic formation, natural conditions, diseases and disasters. The number of harvest years can be counted on our fingers in history. Famine and disasters are innumerable. To eat their fill and dress warmly is always the unreachable dream of the lower class. And this can be seen from people's worship of food. Therefore, before Qing Dynasty, except for some people in the upper class, the masses all follow the fashion of stoutness, for in their minds stoutness stands for richness. With the coming of modern times, opium overflowed, Chinese people were called Patients of East Asia. And thinness became a symbol of patients. In contemporary China, especially after the policies of reform and opening up to the outside world, with our material and cultural life greatly enriched, obesity becomes a social problem, and the fashion of losing weight is more and more popular.

In accordance with the ideas of social psychology, fashion refers to unconventional behavior patterns within the masses. It is shown by quite a few people with certain ideas, behaviors, languages, living styles in a specific period of time. And fashion can be seen here and there. Weight-loss fashion is a group trend of similar social psychology and behaviors in the process of pursuing health and beauty. (Chen, 2005)

*2.3 Relationships between Weight-Loss Advertisements and the Weight-Loss Fashion*

Many different reasons result in the fashion of weight-loss. Although weight-loss advertisements are not the only factor to account for this fashion, they play an important and indispensable role. Many people have been affected by the advertisements to join in the practice of losing weight. Yet most of them don't achieve the intended effect.

Advertisements show the development of fashion honestly. They get inspiration from fashionable ideas and the system of symbols. And advertisements have strong abilities of propagating and facilitating fashion. Lured by advertisements, the masses often go with the tide. Advertisements are the information source of fashion, and can deliver great social and fashion changes.

The effects of ads on fashion are not only informative but also goal-oriented. Advertisements of weight-loss practice are highly sensitive to social psychology. The fashion of weight-loss practice has become a trend before people are conscious of the negative effects of pursuing beauty. At this moment, advertisements of weight-loss practice play such roles as stimulating the needs of weight-loss products, changing people's old ideas of weight-loss into a new standard of beauty and life philosophy. With the aid of the remarkable techniques of modern media, advertisements of weight-loss become ever more attractive. Males and females, girls and boys, almost everyone becomes the assimilator of weight-loss advertisements consciously or unconsciously.

## 3. Phenomena and Harmfulness of Following the Weight-Loss Trend Blindly

*3.1 Phenomena of Following the Weight-Loss Trend Blindly*

In accordance with the survey of Peking citizens' weight losing from CMMR, not only the fat, but also people with normal weight and even people under weight are losing weight. In the survey, people who are quite overweight occupy 43.7 percent of the weight losing people, people who are a little overweight occupy 18.8 percent, people with normal weight occupy 33.7 percent and people underweight occupy 3.8 percent (Note 3). On one hand, those numbers show people don't have objective and standard cognition of obesity. On the other hand, people who are losing weight want so-called beautiful and slim bodies.

Losing weight, as its literal meaning indicates, applies to the fat people. According to a related survey, women who are overweight occupy 51.6 percent of all the overweight people. Middle aged people and old people occupy a larger part. That is, people from 35 to 44 years old occupy 38.7 percent and people from 45 to 54 years old occupy 30.6 percent (Note 4). If it is in proportion, we can infer that women and men who take part in weight-loss practice should be about fifty fifty, and most of them are middle aged and old people. However, it's not the truth. The survey shows that women occupy 76.3 percent, while men occupy only 23.7 percent. In view of the age group, the middle aged people occupy the largest part.

The standards of beauty are not the same, owing to the diversity of cultures. Even within the same culture, people may have quite contrasting aesthetic standards because of different personal experiences and senses of worth. But in the weight-loss fashion all the standards reconcile into one --- slim beauty, which naturally becomes the ultimate goal for those brainwashed to become one of slim beauties.

According to the standard of Asian-Pacific region, BMI (Body Mass Index)= $weight/height^2$. If BMI is less than 18.5, then it's regarded as underweight. If BMI is between 18.5 and 22.9, it stands for normal. If BMI is over 23,

it means overweight. If BMI is over 25, it means obesity. If BMI is over 30, it's serious obesity.

Although the index can serve as the standard of normality instead of beauty, beauty, in our minds, is always closely bound up with normal situation, for "normal" is directly related to "healthy". Thus we can say that the so called "standard" born by people who don't need to lose weight but still choose to do so is not only unhealthy but morbid.

### 3.2 Harmfulness of Following the Weight-Loss Trend Blindly

#### 3.2.1 Harmfulness to the Body

The most direct harm of following weight-loss trend blindly is the harm to the body. In order to pursue the so-called beauty, people would do almost anything at the sacrifice of their health.

As the health awareness increases, people come to realize the harm of obesity. Cardiovascular diseases and nutritional and metabolic diseases accompany obesity. At present, obesity, AIDS, drug taking and excessive drinking have been regarded as the four most serious social and medical problems. Therefore, obesity has been regarded as a kind of disease and it has become the first problem of health, according to related information from WHO. Much clinical observation shows that taking medicine blindly and losing weight blindly will give rise to the probability of menstrual disorder, gall-stone, brain damage, and some other diseases. People lose weight mainly by diarrhea, which may result in collapse, hypoglycemia, and heart disease. In September 2011, a Shanghai girl Wang Ting and an overseas student from Chongqing Liu Yanmei died of taking fake weight-loss medicine (Note 5).

#### 3.2.2 False Judgment of People

Women care about their stature a lot, for they think it's of great importance. As the weight-loss fashion develops, a slim figure becomes something a woman values much. And it is usually connected with a promising job and love. A female who has a charming figure seems more likely to own a successful career, sweet love and happy life. As the weight-loss fashion gets more and more popular, people have a clear-cut attitude towards fatness and thinness.

Nowadays a slim figure has become the tool for the females to be successful. Clothes and body become the symbols of fashion. The value of a female is reduced to her appearance and women have become the slaves of their bodies.

#### 3.2.3 Extreme Life Styles

Fashion is one kind of consumption, for every fashion is related to material things. The weight-loss fashion is no exception. In order to follow the trend of weight-loss fashion, people, especially women, spare no efforts and afford whatever they can to purchase the products which are claimed to make them slim and fashionable. At present, Chinese annual product value of weight-loss products has reached ten billion. Weight-loss clubs are ubiquitous. Those people's lives have changed so much. Some of them suffer from starvation, some take exercise excessively by themselves or go to weight-loss clubs to engage in all kinds of activities, some rearrange their diet list or the timetable for meals, some resort to unhealthy and irrational medicines or health-care food, and still others choose to undergo plastic surgery to make themselves thin. In a word, many people live a miserable life because of losing weight.

#### 3.2.4 Distorted Aesthetic Standards

Because of following the trend of weight-loss fashion blindly, people develop a narrow and limited appreciation of beauty. Under the influence of genes and environment, each person has his or her own characteristics and appearance. We should treasure our unique features and the naturalness of life. The world is full of diversity and that is why our life can be so colorful. We should learn to appreciate different kinds of beauty instead of developing a narrow and limited outlook of beauty.

## 4. Reasons for Following the Weight-Loss Trend Blindly

According to the theory of communication studies, the communication of advertisements contains sender, message, medium, receiver and feedback. (Shu, 2003) As part of advertisements, weight-loss advertisements work the same. Let's discuss the reasons why people follow the trend blindly.

### 4.1 Exaggerated Description of the Weight-Loss Function of the Products in Weight-Loss Ads

Just as the name implies, weigh-loss products are for obese people. Therefore, the main function is to help people to keep healthy. But as a matter of fact, many advertisements describe their products exaggeratedly. Health should be the basic thing, but few ads treat it seriously or cover up the side effects deliberately.

Weight-loss ads always use models with slim bodies, slim waists and flat bellies to impress the audience, seducing them to buy the products recommended.

*4.2 Exhaustion of Every Means by Weight-Loss Advertisements to Influence the Audience*

Media is of great importance in the society. In the modern society, without the promotion of media, the weight-loss fashion could not have developed so quickly and successfully. The most obvious feature about the propagation of weight-loss advertisements is its extensiveness. Weight-loss advertisements can be spread through television, newspaper, broadcast, magazines etc. In short, weight-loss advertisements can be found everywhere and almost everyone can get the information through one channel or another. In the booming advertising industry nowadays, weight-loss advertisements have their own special secrets to make people follow the trend blindly.

Unilaterally emphasizing slim figure and ignoring the importance of health, weight-loss advertisements aim at young people and the middle-aged. As a tool of propagating information, advertisements impress consumers and persuade them to buy the products in the end. Generally speaking, advertisements impress the masses with their brand names, celebrities, and slogans, which are regarded as the most important and core elements of advertisements.

Saussure once said that, symbols can be classified into two parts--denotation and connotation. (Saussure, 1985) Advertisements of weight-loss practice affect people's value orientation by both denotation and connotation, which are the special tactics. They attach love and marriage, successful undertaking, confidence, status to slim body, trying to make people believe that all the good days will come with your slim body.

*4.3 Advocating Thinness with a Capital A*

The standard of beauty is not just the product of modern society, but has a long history. "Birds are chipping for love at the riverbank, and slim and beautiful ladies are good partners for gentlemen." (one sentence in the article "Guanju" in the Book of Poems, one of China's classic books known as Four Books and Five Sculptures), which implies the love for slim beauties. Another example is in the Spring and Autumn and Warring States Period (one dynasty in ancient China), King Chuling was fond of slender waist. In order to play up to the king, the ministers and attendants in the palace reduced their food to lose weight. Therefore, many people died of starvation. And in Han Dynasty, the fashion of thinness still prevailed. The imperial concubine Zhao Feiyan who is quite slim won the favor of Emperor Hancheng.

People in different places also have different standards of beauty. There was once a country called Luosha in the legend, where people thought unlovely things lovely. People there overturned the standard of beauty. Although it was imaginary, we can see that the standard of beauty is deeply rooted in the environment.

Although thinness has never been the main trend for a long period for the general people, we do find some examples in our long history when the upper society values thinness. Yet when the time elapses to our age, we find we are inevitably influenced by the contemporary social atmosphere --- worshipping thinness. Nowadays many people alter themselves to conform to the prevailing ideology of thinness either to be "fashionable" or simply to follow the crowd.

Female stars become the first to be inculcated with the ideology of thinness, out of full identification with the ideology or just pretending to like being thin. Anyhow, it pays off as the public "buy it". When they appear in the advertisements of weight-loss, people are persuaded to believe if they buy the products in the advertisements, they can be as slim and as beautiful as the stars.

Most of the products are sold in the market for at most three years. Therefore, advertising companies spare no efforts to achieve the greatest economic benefits. In a sense, they make full use of people's aspiration--- to become slim and beautiful---to earn money.

Some manufacturers do not hesitate to spend much to ask the super stars to be their spokesmen (more often spokeswomen). They claim that people with slim bodies can be as beautiful as those stars and can be successful as well. With the help of media and the guide of the stars, they promote the selling of the products. Driven by commercial effects, more people join in the tide of losing weight.

*4.4 Fears of People towards Obesity and Strong Desire to Be Recognized*

First and foremost, let's talk about fear, which is the basic mental state when people feel insecure or frightened. (Lei & Wang, 2005) So what does obesity mean for obese people and even healthy people? What frightens them? There are three reasons why people fear obesity. Firstly, obesity results in a series of diseases and threatens the health of people. Secondly, obesity induces senility, which is the fatal attack to women who care about their

appearance. Thirdly, fear of bad impression on others. When people consider obesity as ugly, they try to follow the trend crazily. (Zhang, 2005)

What's more, let's talk about conformity and simulation. For most of us, it is unbearable to be treated as strange people and not of the same clan. Therefore, people do their best to adapt to the environment around them to make themselves feel better.

## 5. Regulation of Weight-Loss Advertisements to Ensure the Healthy Development of the Weight-Loss Fashion

### 5.1 Appearance of the Favorable Trend of the Weight-Loss Fashion

In December, 2000, the British government declared prohibiting advertisers' hiring very thin models (determined by the BMI). The reason is that more and more women are found to have disordered diets and the media prefer super thin models to other women. In November 25th, 2002, Information Times reported that, although slim and sexy Barbie dolls are loved by children and adults from different countries, they are doubted by the public. Vladimir Putin, the Russian president, said that, the slim bodies of Barbie dolls corrode pure hearts of children. In September, 2006, British minister of culture called on sponsors of London Fashion Week not to use super slim models. And five models were weeded out of the Spanish grand meeting of costumes because of their BMI (Body Mass Index). Although bony beauty is still popular during the past fifteen years, said The Wall Street Journal, people have come to realize the importance of health.

### 5.2 Measures to Reduce the Negative Effects of Weight-Loss Advertisements

Faced with the ubiquity of weight-loss advertisements and the corresponding serious social consequences, many governments have taken measures to supervise the advertisement market. We should ensure the favorable trend of weight-loss fashion through social advocating as well as strict regulations of weight-loss advertising.

5.2.1 Advocating of Healthy Weight-Loss Practice in the Whole Society

Social advocating, often in the way of public opinion guidance, should come first in terms of reducing the negative effects of weight-loss advertisements. The public like to follow the trend if there are bony models everywhere, in billboards, in posters, in magazines, or on TV and radio. People would be influenced subconsciously or deliberately. Thus the media should take the lead in guiding the public in the weight-loss practice. For example, The TV program producers should make some kinds of programs to draw people's attention to healthy lifestyles and bad impacts brought by impropriate weight-loss behaviors. The teachers can also instill ideas of healthy living ways in their classes. Parents, friends or other relatives can also play some part in the campaign against the bad effects of weight-loss advertisements.

5.2.2 Improvement of Laws and Regulations to Monitor Weight-Loss Advertisements

The modes of propagation and channels of communication change day by day. Advertisements are now spreading phenomenally, more than we can imagine. Like other advertisements, weight-loss ads should comply with advertising management laws and regulations. Advertising management laws and regulations refer to the Advertisement Law of the People's Republic of China as well as other relevant laws, rules and regulations. (Yang, 1998)

As advertising management laws and regulations are not impeccable and sometimes have ambiguous interpretations, many advertisers thus make full use of those imperfections and do harm to the public. Therefore, we should improve the legislation of weight-loss advertisements comprehensively.

What's more, there is close relationship between the bad influence of advertisements and loose management of them. Advertisements have great influences on social customs, people's concept of value, and moral norms. So it's very significant to enforce strictly advertising laws and regulations.

5.2.3 Strict Supervision and Censorship of Weight-Loss Advertisements

As early as in 1947, Coulter Lewin, a psychologist, said in "Channels of Group Life", "Information always flows through channels which contain square regulations or judgment there." The same theory applies to advertisements. So it's necessary to enhance the supervision and censorship of weight-loss advertisements.

In my view, the authority should at least supervise weight-loss advertisements in the following aspects:

Whether the advertiser has the capacity of a law subject;

Whether the contents of advertisement are true and whether it will mislead people;

Whether its contents are legal.

What's more, we have to make sure all the immoral, unhealthy and uncivilized elements in the advertisement are eliminated.

Let's work together to ensure the healthy development and correct direction of weight-loss advertisements and the weight-loss fashion!

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## Notes

Note 1. Retrieved January 6, 2016, from http://www.China.com.cn/HIAW/1272024.html. (2015-7-11)

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# Prediction of Teenager Depression Based on Social Skill, Peer Attachment, Parental Attachment and Self-esteem

Maryam Hoseeinzadeh[1] & Zeynab Khanjani[1]

[1] Department of Psychology, Faculty of Psychology, Tabriz University, Tabriz, Iran

Correspondence: Maryam Hoseeinzadeh, Department of Psychology, Faculty of Psychology, Tabriz University, Tabriz, Iran. E-mail: kh.hoseynzade446@gmail.com

## Abstract

The study examined prediction of teenager depression based on social skill, peer attachment, parental attachment and self-esteem. The type of this study is descriptive-corolation. Data from survey of 382 high school daughter students in basis of morgan sampling table were used. At this study we used Multistage Cluster Method for sampeling. Information of this study collecting by Kutcher Adolescent Depression Scale (2002), Social Skills Inventory and Foster teen Ayndrbytzn TISS (1992), Test Adolescent Attachment to Parent and Peer (IPPA-R) (1978) and Ruchester Self-Esteem Scale (1998). The Statistical method used for data analysis in the study is Multivariable regression and Pearson correlation. The results indicated that there was reversed significant relation between teenager Depression and Social Skills. There was also reverse significant realation between Depression, Peer and Parent Attachment and Self-Esteem. Furthermore it revealed that between mother attachment and father attachment, mother attachment had more share on prediction of adolescence depression. Among three variables of social skills, parental attachment, peer attachment and self-esteem the social skill had the least effect on prediction of adolescent depression but others had a significant effect.

**Keywords:** depression, teenager, attachment, peer, self-esteem

## 1. Introduction

Depression is the most common mental disorder and has significantly increased in the recent decades. Feeling dumb, being out of mood, sadness, hopelessness, frustration, unhappiness and dissatisfaction are all common experiences of depression (Rozengan, 2012). Depression has a particular meaning for everyone. It can be a diagnosable sign, symbol or disorder. Depression affects the areas like behavior, thought (recognition), physical performance and conduct (Grist, 2006). Different theories were discussed about depression such as biological theories which assume that the reason of depression is in genes or some incomplete physiological functions that may be rooted in inheritance. Psychoanalysis approach looks at depression as a reaction to lack (absence) (Sarason, 2009). According to the importance of adolescence, one of the reasons of teenager vulnerability in depression is their incomplete skills and sensitive conditions. Lack of skills causes the lack of protecting teenagers against damages especially depression. Social skills are: the abilities which are provided in the field of compatibility and positive and useful behavior or the ability to establish relationships with others in a special social filed accepted by the society and the person (Taromian, 2005).

Thus, creating or increasing self confidence in dealing with problems and solving them and also helping them with the development of social skills and emotions seem necessary in order to have a successful compatibility with social environment and a healthy life. By increasing social skills, in teenagers they can be protected against mental damages like anxiety and depression to have a desired and pleasant life. (Afrouz, 1993) Lack of these skills makes the person to use non-effective behaviors against stress and pressures. Such skills in teenagers create the sense of accomplishment, being effective to deal with problems and increase of self-concept to do planning and have a targeted and appropriate behavior (Taromian, 2005). In general, the people who have a low special skill and establish social relations with difficulty are more exposed to depression because the power of being social and using social skills allow the person to transfer his/her wishes, desires and needs easily, ask for help or help others and thereby decrease hostility. It was observed that if the person cannot establish an emotional and appropriate link to himself, he/she will not be able to establish right relationships with others in the adulthood and there will be a context (background) to suffer from some problems like anxiety and depression

(Ganji, 2011). Peers at the best mode are like a bridge between family and social roles of adults. During the adolescence, friendship change and move toward more intimacy and loyalty. (Laura Berg, 1390) Friendships are usually useful but can also have some disadvantages. When teenagers focus on deeper thoughts and feelings, they think about negative problems and feelings repeatedly that leads to anxiety or depression. Also, when there are some conflicts among intimate friends, one of them is more likely to hurt the other one through being aggressive. (Laura Berg, 2012)

In the adolescence, peer attachment increases. Attachment is sustainable emotional nodes or links between two people, so that one of them attempts to protect closeness (intimacy) with the subject of attachment and act in such a way to make sure that the relationship will continue. (Balbi, cited in Khanjani, 2006) Balbi emphasizes the importance of the relationship between mother and child and believes that the experience of a warm, intimate and continuous relationship between mother (or her permanent alternative) and child is essential for the mental health of child. He believes that most forms of Neurosis are the personality disorders caused by the lack of a warm relationship between mother and child or the lack of stability in this relationship. The type of attachment in the childhood is one of the effective factors in creating psychological damages in the next periods of life. The results of most studies showed that insecure attachment in the childhood leads to many mental disorders in the adolescence and adulthood. (Mansour, 2012) Balbi states that the relationship and like between mother and child is the result of the activity of some behavioral systems in which the closeness to mother is a predictable result. (Cited in Khanjani, 2013)

The children who have an insecure history (background) are more likely to have negative intentions to important social situations and are less likely to provide successful solutions in solving imaginary conflicts and see themselves with others especially family members because attachment styles affect the ways of coping with stressful conditions and situations. Secure people confirm the situation and easily ask for help. Avoiders have a problem to confirm the situations and asking for help and the prominent sign of ambivalent people is too much sensitivity to negative emotions and attachment images. (Cited in Besharat, 2008) Mc Cord and McCord (1990) studied the role of teenager attachment in distinguishing depressed and non-depressed teenagers. They concluded that a high percentage of insecure attachment scales is related to high rate of depression and showed a negative exponent as a key factor in depression. The researchers like Smith, Marton and Strauds (Cited in Besharat, 2008) believe that the theory of attachment is one of the most powerful theories to explain and study mental damages like depression. The study of Lam, Wright and Smith (2004) showed that the teenagers with depression have more insecure attachment in comparison to normal teenagers. They need more social confirmation. The people who have a good self esteem are completely compatible, match, sociable and responsible while those with low self esteem have problems in all fields. The teenagers with low self esteem are anxious and depressed. Authoritarian parenting and encouraging and supporting by teachers predict high self esteem while he teenagers with faultfinding parents are instable and have low self esteem. Negative feedbacks are instable or independent to performance and in the best case, lack of confidence to ability and in the worst case, it causes sense of incompetency and not being respected. The teenagers who experience this type of training (bringing up), only rely on their peers in order to confirm their self esteem that is a risk factor for behavioral problems. According to some studies (Misner, 2009), the rate of depression is more in isolated and alone people with no self esteem and there is less depression in people with high social relations. (Laura Berg, 2012) In fact, self esteem is the evaluative dimension of self-concept and refers to how evaluate ourselves. Since self esteem is also related to mental compatibility (Schweitzer, Smith, & Callan, 1992). The people with low self esteem often experience the signs of mental problems and diseases like depression, anxiety and severe stress (Youngs, Rathge, Mallis, & Mullis, 1990) and the study results of Klose and Tinuis (2004) revealed that teaching social skills improves self esteem in depressed patients. According to the above –mentioned literature while is focused on the role of attachment with mental health and formation of self-concept and socialization of teenagers, the purpose of this study is to examine the relationship between teenager depression and parental attachment , peer attachments elf esteem and social skills.

## 2. Method

The present study is descriptive-correlational according to the nature of subject and desired objectives. The statistical population includes all the high school students of Tabriz in the academic year 2013-2015. The inquiry of the department of education in Tabriz in 2015 showed that the population size equals to 69429 subjects. The sample of this study includes 382 subjects that were calculated by Morgan sampling method. Multi-stage cluster sampling method was used in this study. Two regions of Tabriz were selected and from each region, five schools were selected randomly. Then, depression, self esteem, parental attachment, peer attachment and social skills tests were performed on all students of the selected classes. The students who received a score higher than 15 in

depression test were selected as statistical sample this method was repeated to an extent where 382 subjects were collected.

Kutcher Adolescent Depression Scale was designed by Kutcher in 2002. The present questionnaire is of self report which includes 11 items. Answers were designed as Likert 4-point scale. The score of each subject is the total score of him/her in all items and scoring the test in all items directly. The minimum score of the subject is zero and its maximum score is 33. In the study of Brucz, Brooks, Cruluiz and Kutcher (2003), 1006 teenagers with MMD were treated with ineffective drugs (Placebo) for 8 weeks and then were measured by using different scales of depression evaluation (measurement) like KADS, CDRS-R, GAF and CGI in the days 7, 28, 21, 14 and 42. In this scale, KADS had the highest power of depression recognition. As the results of studies show the present scale has a high correlation with its similar scales.

Adolescent Social Skills Inventory (Tiss) was made by Inderbitzen and Foster (1992) and includes 39 five-option items. The subject represents his/her answer about each item in a scale from the options (never to always). The original version of this inventory has 40 items and one item was deleted according to the lack of match to the Iranian culture. (Item No. 22) Scoring method: The items of this questionnaire are in two fields of positive and negative behaviors. Each item has 6 options. In positive options, the related scores are: never =0, rarely =1, a little =2, sometimes =3, often =4, and always =5. In negative options, the scoring method is reverse. The validity of this inventory was reported as 90% by Inderbitzen and Foster (1992). The convergent validity of Inderbitzen and Foster social skill questionnaire was evaluated by different methods like comparing it to self evaluation data, evaluating the peers and sociometric data, studying the correlation of social skills scores and social desirability, socioeconomic status and other pen-paper tools by Inderbitzen and Foster . The obtained results show the convergent validity and acceptable reliability of this questionnaire. (Doran 1380) The reliability of this questionnaire was reported by Amiri (2000) as 0/71 and 0/68 for positive and negative options for the secondary school female students of the second grade in Tehran city. For the positive and negative parts of this questionnaire, the reliability coefficients were respectively obtained as 80/71 and 80/51. (Doran, 2002)

Rochester self esteem scale: This test that evaluates the perception and understanding of adults and self esteem was provided to be used in the longitudinal study of adult growth and according to Rosenberg (1965) self esteem scale. (1988) this scale was consisted of 9 items and the subject should express his/her agreement or disagreement in a Likert 4-point scale (from totally agree to totally disagree). In this test, totally agree has 4 scores, agree 4 scores, totally disagree 2 scores and disagree 1 score. The range of scores in this test varies from 1 to 4 and high scores in this scale show the high self esteem of the child. Psychometric features of this test were done on a sample of 4000 young people (729 boys and 271 girls) at the 7th and 8th grades of Rochester area in New York. According to the obtained results of this study, the internal consistency of the items of self esteem scale was equal to 0/78.

Parental and peer attachment test (IPPA-R) (Armsden & Greenberg, 1978) was designed on the base of Balbi attachment theory to evaluate the teenager thoughts about positive and negative emotional /cognitive aspects of the relationship with their parents and intimate friends. This test has 3 sub-scales of trust (confidence), quality of relationship, rate of hostility and sense of alienation. In parental and peer attachment scale, the options are scores as follows: always=5 scores, often=4 scores, sometimes=3 scores, rarely=2 scores, never=1 score. The re-test reliability of the scale in 3 weeks on a sample of 27 teenagers aged 18-20 years was 93% for parental attachment and 86% for peer attachment. Cronbach's Alpha coefficient of this scale was reported as follows: mother attachment=0/87, father attachment=0/89 and peer attachment= 0/92.

For data analysis, multivariate regression and Pearson correlation were used. Data were analyzed by using the 19th version of SPSS software.

### 3. Findings

To know the research variables, first their mean and standard deviation were considered. (Table 1)

Table 1 shows the mean and standard deviation of social skill in the studied students. The mean of social skill is M=103 and standard deviation is S=19/5. The mean and standard deviation of mother attachment are respectively 90/1 and 12/8, the mean and standard deviation of father attachment are respectively 9/71 and 15/4, and the mean and standard deviation of peer attachment are respectively 79/7 and 14/8. The mean and standard deviation of parental and peer attachment are respectively 80/61 and 10/48.

Table 2 shows the Pearson correlation between teenager depression and the variables of social skill, parental attachment, peer attachment and its dimensions and self esteem.

Table 1. Descriptive statistics (mean, standard deviation), social skill, parental attachment, peer attachment and its dimensions, self esteem and depression

| Variable | | Mean | Standard deviation |
|---|---|---|---|
| Social skill | | 103.01 | 19.509 |
| | Mother attachment | 90.1211 | 12.84723 |
| Parental attachment, peer attachment and its dimensions | Father attachment | 71.9814 | 15 .42215 |
| | Peer attachment | 79.7749 | 14 .87539 |
| | Parent and peer attachment | 80.6118 | 10 .48969 |
| Self esteem | | 2 .4314 | 53004 |
| Depression | | 19.5366 | 4.20442 |

Table 2. Correlation coefficient between teenager depression and the variables of social skill, parental attachment, peer attachment and its dimensions and self esteem

| | | Depression |
|---|---|---|
| Social skill | Pearson coefficient | 0 .110[*] |
| | Significance level | .003 |
| Mother attachment | Pearson coefficient | -.502[*] |
| | Significance level | .000 |
| Father attachment | Pearson coefficient | . .300[*] |
| | Significance level | .000 |
| Peer attachment | Pearson coefficient | -.221[*] |
| | Significance level | .000 |
| Self esteem | Pearson coefficient | -.304[*] |
| | Significance level | .000 |

Significant correlation at 0/05 level

The results of the correlation table show that there is a negative (reverse) and significant relationship between teenager depression and social skill (r=-0/110 and significance level p<0/05). It means that depression decreases with the increase of social skill. There is a negative (reverse) and significant relationship between teenager depression and mother attachment (r=-0/502 and significance level p<0/05). It means that depression decreases with the increase of mother attachment. There is a negative (reverse) and significant relationship between teenager depression and father attachment (r=-0/300 and significance level p<0/005). It means that depression decreases with the increase of father attachment. Also, there is a negative (reverse) and significant relationship between teenager depression and peer attachment (r=-0/221 and significance level p<0/005). It means that depression decreases with the increase of peer attachment. The results of the correlation table show that there is a negative (reverse) and significant relationship between teenager depression and self esteem (r=-0/304). It means that self esteem decreases with the increase of depression.

Table 3. Shows the concurrent regression analysis of depression based on social skills, father attachment, mother attachment, peer attachment and self esteem

| Model | Multiple correlation coefficient (R) | Coefficient of determination (R2) | Pure (net) determination coefficient (R2) | Estimate standard error | Observed F | Significance level |
|---|---|---|---|---|---|---|
| Model 1 | .455 | .207 | .196 | .73044 | 18 .42 | 0 .000 |

Predictor variables: social skills, father attachment, mother attachment, peer attachment and self esteem.

Table 4. Beta coefficients of predictor variables affecting depression

|  |  | Non- Standardized coefficients | | Standardized coefficients | T test | Significance level |
|---|---|---|---|---|---|---|
|  |  | Beta coefficient | standard error | Beta coefficient |  |  |
| Model 1 | Constant value | 34 .812 | 1 .820 |  | 19 .127 | .000 |
|  | Social skill | .020 | .011 | .093 | 1 .827 | .069 |
|  | Mother attachment | -2 .035 | .390 | -.259 | -5 .218 | .000 |
|  | Father attachment | -.052 | .015 | -.185 | -3 .532 | .000 |
|  | Peer attachment | - .002 | .014 | .007 | - .133 | .894 |
|  | Self esteem | -.089 | .017 | -.272 | -5 .243 | .000 |

According to multivariate regression test (concurrent method) and according to the tables in explaining depression from social skills, father attachment, mother attachment, peer attachment, and self esteem. It can be seen that multiple correlated coefficient is equal to R=0/45, coefficient of determination R2=0/20 and net coefficient of determination R=0/19. Predictor variables explain about 19% of the variance of depression score.

According to the standardized Beta coefficients and significance level, predictor variables affecting depression, mother attachment with B=0/25 (P<0/05), father attachment with B=0/18 (P<0/01) and self esteem with B=0/27 (P<0/01) were considered. The study of Beta coefficients shows that the variables of social skill and peer attachment do not have enough power to predict and explain depression.

## 4. Discussion and Conclusion

The present study was aimed to study the relationship between teenager depression and parental attachment, peer attachment, self esteem and social skills. The results of this study showed that there is a negative and significant relationship between teenager depression and social skill. The findings of the present study are consistent with the results of the studies by Amiri (2010), and Mirzamani et al. (2013). Sergin (2000) in a study entitled as social skills and their relationship to depression found that poor social skill is one of the reasons of depression and vice versa. Depression can weaken social skills in people. Cruwys, Genevieve, Haslam, Jetten et al. (2013) studied the role of membership in social groups in preventing depression and found that membership in social groups plays a protective and treatment role in depression. Nilson, Karevold, Roysamb, Gustavson, Mathiesen (2013) in a study entitled as social skills and symptoms of depression in teenagers: social support as a mediator in girls and boys found that teaching social skills in school programs and schedules prevents teenager depression.

Behaviorism theory states that the real deficit in social skills is one of the main reasons of low rate of positive reinforcement. In addition, as people get depressed, their behaviors make them less lovely. Thus, a kind of vicious cycle is created and people avoid spending time on the depressed person and this problem reduces social skills in them. (Sarason, 2009) The people with symptoms of depression have a negative attitude toward facing situations. This fact refers to the judgment of the person about the ability to do specific actions and there is a big probability that the low sense of efficiency is an accurate reflection of the lack of social skills and the ability of the depressed person in obtaining reinforcement. (Dadsetan, 2009) It should be noted that the ability of people in group activities and healthy social relations are very useful for their mental health and ignoring this aspect of life among the depressed people will lead to the intensification of the disease in them. The increase of social skills has currently a significant and prominent effect in predicting and treating depression. The increase of social skills develops social competencies and abilities in people and using social skills affects the educational, occupational and social functions of people.

The next finding of the study showed that there is a relationship between teenager depression, mother attachment, (mother and father) and peer attachment. According to the results of the correlation table, there is a negative and significant relationship between teenager depression and parental attachment. In other words, depression decreases with the increase of parental and peer attachment.

Different studies that investigated the relationship between attachment style and depression showed that there is a negative relationship between depression and secure attachment style and there is a positive relationship between ambivalent and insecure attachment style with depression. (Asqari, 2008) In another study that is consistent with the present study, Howard and Medway (2009) studied the relationship between the quality of attachment and depression and stated that the anxiety of insecure attachment significantly predicts depression and anxiety. Marchand (2009) in another study examined the relationship between attachment quality and

depression in students and through a regression analysis; he found that insecure attachment predicts depression. It should be noted that if no sensitivity is paid to the person since the childhood, insecure attachment will be formed in the child and his/her internal –practical patterns from others will be as non-achievable and unconfident people. These unhealthy perceptions prevent the formation of interpersonal relationships and put the person in exposure to the risk of some mental and mood problems. Secure people have a low depression and sense of loneliness due to their satisfactory relationships with others and since the secure attachment style is described with the internalized sense of self-worth, comfort and intimacy in close relationships, these people show higher self esteem in comparison to the people who have insecure attachment style. However, the people with insecure attachment have a high sense of self-worth and neglect the establishment of close relationships with others. But this sense is unreal because insecure children show a pattern of physiological arousal that is a sign of hidden anger and aggression. (Spengler, 1993)

The study results of Armsden and Greenberg (2009) in consistent with the present study revealed that there is an important relationship between peer attachment and mental health of teenagers and its effect can be seen on different aspects. The highest rate is mental health and the lowest rate is depression and the level of happiness and positive attitude to life are the symptoms and signs of mental health and the level of anxiety, stress, and negative attitude show mental depression among teenagers. In a study, Millingers, Buck, Montgomery and Stalard (2012) in consistent with the present study, there is a relationship between school and peer attachment that can be a key to mental health in the adulthood. There is a negative and reverse relationship between adult depression and peer attachment. Peer attachment in their study was the highest predictor of low mood in the adolescence. In another study, Wilkenson (2010) in consistent with the present study, it was shown that peer attachment has a negative and reverse relationship with the prediction of mental health regulation in the adulthood and is an appropriate method to study mental-social match in the adulthood. According to the data, it can be concluded that emotional regulation and the quality of parental and peer attachment are strongly dependent on each other. Thus, psychological problems in the adolescence and adulthood are in a close relationship with a deficit in cognitive processing and emotional regulation. Some disorders like depression that is somehow a personality trait related to the current deficits in cognitive and emotional processing and is correlated to attachment insecurity. (Tervis, Argino, Perachio, & Pit, 2001)

Another study showed that there is a negative and significant relationship between teenager depression and their self esteem. It means that depression increases with the decrease of self esteem. This finding is consistent with the study of Terry (2002). He showed that the increase of self esteem is essential for predicting the problems like depression that may occur due to low self esteem for teenagers. In fact, self esteem is the predicting factor of depression and also the predicting factor of depression until the next 5 years in teenagers. (Brandan & Black, 2008) The studies of Moradi et al. (2010) also in consistent with the present study showed that teaching social skills has a positive and significant effect on self esteem and progression. In a study, Resnik, Bearman, Blum, Bowman and Harria et al. (1997) studied self esteem with other social and individual variables as the predictors of emotional disorder and the probability of committing suicide, but did not report any particular relationship. The study results of Ashuri et al. (2013) in consistent with the present study showed that teaching social skills in teenagers significantly increase self esteem in them that predicts the prediction of depression. It should be noted that self esteem is the important aspect of function or general action of people and is related to other areas like mental, social health and their academic performance. Self esteem is another important factor in self-concept of each person and significantly determines his/her behaviors. It also plays a very important role in mental health and even the evolution of the person. In general, self esteem in depressed people is significantly lower than the normal people. Low self esteem is significantly correlated to the symptoms and is related to many problems of mental health and usually leads to mental damages. Self esteem is an attitude toward oneself. Female teenagers feel less value to them for different happiness and can finally create depression in them over time. (Najarian, 1992)

Another finding showed that only parental attachment especially mother attachment has a significant role in the prediction of teenager depression. But peer attachment does not play a role in the explanation of depression. Although in Pearson correlation analysis, there was a significant relationship between peer attachment and depression, it seems that this variable is in line with two important variables of parental attachment and has no significant effect on teenager depression. Protective base in mother-teenager relationships significantly explain the variance of teenager mental health because there is a close relationship between the efficiency of teenager-parental relationships with communicative phenomenon based on security in which teenagers can discover their intellectual and verbal independency from this parental relationships secure base. In other words, the access of teenagers to mental health and independence in different dimensions is related to their relationships

with parents especially mother as a supportive base. The last finding of the present study showed that among the variables of social skills, parental attachment, peer attachment and self esteem, only the variables of parental attachment, peer attachment and self esteem can explain teenager depression and social skills have no significant role in predicting depression. This is while social skill had a significant and negative relationship with depression through Pearson correlation model. It seems that it has no significant role in the variance of depression. According to the internal practical pattern or visual model of attachment, as emphasized by Balbi, there is a direct relationship between the internal patterns of child from mother with his internal pattern. Confidence and trust to the response of attachment has a significant role in the creation of a positive pattern of oneself and formation of high self esteem. On the contrary, when the child considers that he/she is humiliated by his/her parents, he/she will not only feel that the parents do not want him/her, but also believes that he/she is not essentially valuable and for this reason will have low self esteem in the adulthood and feels himself alone in problematic situations. Such a person has a negative attitude to the world and him/her and will be ready to suffer from depression.

The present study had some limitations including: this study was conducted in Tabriz, thus the obtained results should be cautious and discreet in their generalization to other geographical and cultural areas. This study was only performed on female teenagers and its results cannot be generalized to other ages and groups. It is also suggested to perform this study in other geographical and cultural areas.

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# Research on Temple' Role in the Divorce of Edo Japan Basing on Analysis of Enkiridera

Wang Weixing[1]

[1] School of Foreign Languages, Qingdao University of Science and Technology, Qingdao, Shandong, China

Correspondence: Wang Weixing, School of Foreign Languages, Qingdao University of Science and Technology, Qingdao, Shandong, 266061, China. E-mail: luckywwx@163.com

## Abstract

Edo Japan is male-dominating age. The husband owned the right of divorce, while the wife didn't, the wife could only be at the mercy of their husbands. If the husband wanted to divorce, they just need to give their wives a piece of "Mikudarihan", which was the certificate of divorce at that time, while the wives didn't have the right of asking divorce. That was a well-rounded argument. In fact, about divorce, the wives were not so completely passive, the wives themselves also could actively divorce, and obtained divorce by some means, for example the wife could run into Enkiridera. Enkiridera was a kind of temples in which women seeking release from marriage could take refuge and obtain divorce by the help of the temples. The existence of Enkiridera gave wives a possibility of obtaining divorce.

**Keywords:** Enkiridera, temple law divorce, mediation divorce

Japan's Edo period is an era with the most complete feudal system in Japan history. In the Edo period, women were naturally under the oppression of the feudal system and absolute patriarchal oppression. The women had no freedom of marriage, and had no say in the divorce. Men could divorce the women as they wished while the women could not divorce the men according to their will for women didn't have the right to divorce. When a man wanted to divorce his wife, just gave his wife a paper divorcement and the wife was not entitled to resist. However, if the wife wanted to divorce, she was unable to achieve the desire of divorce if the husband did not agree. This is a general introduction, so is it really true? Did the Women really don't have a way to achieve the desire of divorce? The answer is negative. In fact, fleeing into Enkiridera and obtaining divorce under the auspices of Enkiridera was an effective way. So, what kind of organizations the Enkiridera was? How did Enkiridera help women realize the desire of divorce?

## 1. Enkiridera and Its Historical Formation

Enkiridera is a kind of nunnery. In Japan Edo period, women may flee there in order to achieve desire for divorce. With the help of the nunnery, the woman could achieve desire to divorce. This kind of temple was known as "Enkiridera". There were mainly two such temples in the Edo period: Tokeiji and Mantokuji. The divorce agreement would effect after the woman who fled into the temple had been grounded for a period of time. "Enkiridera" is also called "Kakekomidera". Usually, the husband wrote a certificate of divorce to the wife and the divorce realized. When the wife wanted to divorce but the husband refused to sign the certificate of divorce, the divorce was difficult to obtain. So, as an unusual means to obtain divorce, many wives fled into Enkiridera to seek help. Because the temple had the function of refuge originally, and due to historical reasons, Enkiridera was also generally considered to have the function of refuge from being assaulting by the husbands for the wives who want to divorce. Of course, in the patriarchal society, women who wanted to divorce also needed to pay a price, that is, the woman must be grounded in temples for about three years. Usually, Enkiridera helped women to divorce by two ways: one way was forcing her husband to sign and hand over the certificate of divorce by using the temple laws, which was known as "temple law divorce". Another way was mediating between the two sides, which was known as "mediation divorce".

Why did the Enkiridera have this kind of power? Did other temples also have such power? Here we need to emphasize that in the Edo period, the temples which owned "Enkiridera" privilege actually were only two temples: Tokeiji in Soshu Kamakura and Mantokuji in Joshu Seta, while other temples were deprived of such privilege. Originally, every temple had the function of refuge. The woman who wanted to divorced fled into

nunneries and obtained divorce after three years of being grounded, which had become a habit in history. The reason why the nunneries have this function was mainly because the man could not enter the nunneries.

With the perfecting of Edo Bakufu domination system, the temple' privilege of refuge was gradually deprived. Bakufu specially formulated "Sect Law" to manage the temples. But Because of having a close relation with Senhime who was the granddaughter of Tokugawa Ieyasu in the history, Tokeiji and Mantokuji retained the privilege. Tokeiji was built in the Kamakura period, which was a nunnery of Rinzai School. The builder is Kakusan Ni who was the wife of ruler Hojo Tokimune at that time. The formal name of the nunnery was "Shokozantokeisojizenji". The abbot became Tenshu Ni (Concubine Narita Clan of Toyotomi Hideyori) in Edo period when it prospered again. After the "Siege of Osaka", she survived with difficulty and entered Tokeiji as adopted daughter of Senhime. When Ieyasu asked her if she had any wishes, Tenshuni answered that as a nun, she had no other request but continuing the temple laws which began from its building. Ieyasu agreed the request and so Tokeiji had the privilege of "Enkiridera". And Mantokuji was also built in Kamakura Era, which was a nunnery of Jishu Sect. The founder was the woman of Tokugawa Yoshiki, its formal name is "Tokugawa Mantokuji". The founder of Mantokuji is regarded as the ancestors of Leyasu Tokugawa. Later, Senhime, the granddaughter of Ieyasu, fled into this temple from Osaka City. Therefore, the marriage between Tokugawa family and Toyotomi family broke up. Senhime later remarried Honda Clan. As a result of this precedent, Mantokuji became Enkiridera which allowed remarry. In short, the two temples retained the privilege of Enkiridera both because of the relationship with Tokugawa Bakufu.

## 2. The Role of Enkiridera in the Process of Divorce

From the process of Enkiridera helping women to divorce, we can see there were two solutions: one was mediation divorce which was conducted by mediating; the other was temple laws divorce which was conducted by the temple laws. For mediation divorce, the temple mediated between the husband and the wife as an agency, which helped the woman obtain divorce without being grounded in the temple for three years. The temple laws divorce was obligatory in which the temple used the temple laws force the husband hand over the certificate of divorce on condition that the woman must be grounded in the temple for three years. In a sense, the Enkiridera can be looked as a kind of government office; it was a court which judged divorce case. Generally speaking, temples were not willing to force the husband to divorce by using the temple law. The temple would mediated first, if the mediation was invalid, the temple would have to force the husband to divorce by using the temple law. From the cases, we can see in the actual operation, at first, most of the cases were "temple law divorce". But with the changes of society, the proportion of "mediation divorce" increased substantially. The reason for this change was that refuge function of temples was declining, in the meantime, it also meant the system and function of Enkiridera was known by more and more people. It was well-known that once the wife fled into the Enkiridera, the husband had no other choice not agreeing to divorce. So the husband agreed to divorce quietly before the Enkiridera used the temple law.

We will analyze the role of Enkiridera in the actual divorce cases through the following two temples.

As Enkiridera, Tokeiji owned the privilege of judging divorce cases by using Enkiridera law. But the temple would not force the man to divorce the woman just after the woman fled into the temple for help. Commonly, the temple would mediate first, and tried to make the divorce become a mediation divorce. If the mediation failed, the temple would use Enkiridera law as a last mean to force the man to sign the certificate of divorce and order him to divorce.

First, once a woman ran into the temple for help, the temple would conduct an investigation, then asked her mother's side of family to the temple. The temple would ask the father of the woman to persuade her to come round and try not to divorce. If the woman insisted on divorce, her father would negotiate with her husband and tried to get the husband's agreement. If the man agreed, the agreement divorce was established. Sometimes, the woman's father would negotiate with the husband before the temple asked him to do so, and the agreement was established successfully, this situation was called as the "Divorce behind Closed Doors". At this time, the woman's family could bring the woman back directly from the temple by carrying the certificate of divorce sighed by the husband. If the husband did not agree, the woman would ask the temple to force the husband divorce by using the temple law. At this time, the temple would send officials to the husband's house. There were cases that the husband was out and not home if the temple sent officials to his house without notice. The temples usually sent a letter to the mayor who was head of the village, noticing in advance arrival date of the official and asking him to keep the husband home, which is called "official notice".

Apparently, the notice gave the arrival time of Tokeiji's officials, it actually had another secretly purpose, that was hinting to the husband that the matter was not negligible, and hoping the husband to agree to divorce before

the temple officials arrived, so that to achieve the purpose of "agreement divorce". Communications books and notices of Tokeiji were enveloped in letters of gold chrysanthemum pattern, generally speaking, the man would be scared when they received the communications books or notices, and most would immediately signed a certificate of divorce. This is different from the ordinary agreement divorce, and was known as "divorce agreement after the office notice". Because once temple official arrived, the husband agreed to divorce after reading the "temple law book", the nature of the divorce was changed from agreement divorce to temple law divorce, the woman would be grounded in the temple for three years, it would be a tremendous thing. Therefore, most cases would be conducted behind closed doors in the period of acceptance of official notice. In addition, this kind of agreement divorce would sometimes order the husband to the temple, and achieve the purpose of agreement divorce by persuading and lobbying the husband.

The following two cases show the specific process that Tokeiji conducted the divorce.

Case One: Kane, who was a woman lived in Hongou4 fled into Tokeiji in 1850, her husband was infatuated with prostitutes. Kane's clothes were all pawned, which was not enough for the prostitute's fee. Then, the husband battered the wife viciously, and forced the wife to earn money by being a prostitute. The husband even wanted to sell the wife. Kane had no other choice but to leave home, she wanted to negotiate with the husband about the divorce. The husband didn't agree anyway. So, Kane submitted the pleadings to Tokeiji, asking for help to obtain divorce. According to the pleading of Kane, Tokeiji ordered the husband Kanjiro to the temple. Kanjiro refused to sign the certificate of divorce, and even claimed to sell the wife to get money for prostitution. Being furious with the husband's behavior, the father of Kane asked the Tokeiji to force the husband to divorce.

Then the government office notified the enforcement day to the mayor of village which the husband Kanjiro lived in. In response, when the enforcement document of the temple issued, Kanjiro claimed that he had submitted the pleading to the local officials and asked the local officials to get his wife back. The husband pleaded to the local officials that the wife stole 5000 Japanese Mon of the family, and had an affair with a man named Kinjiro, ran away from home with a coat of the husband and so on, Which resulted in that the local officials could not ask him a to sign the certificate of divorce according to the Tokeiji law immediately. Kane was ordered to confront with the husband. The local officials asked to extradite Kane, but the Tokeiji refused anyway. Eventually, Kane was extradited to the local officials and was sentenced minor punishment, but divorced with the husband. Tokeiji asked the local officials to send Kane back to Tokeiji with the certificate of divorce signed by the husband just after the punishment was finished, Kane would be free after being grounded two years in the temple.

Case Two: A woman named Asa who lived in Asakusa fled into Tokeiji in 1856. Her husband was Ryosaku who worked in the shop of Yoshibe of Komagata. There was an episode before Asa fled into Tokeiji. Earthquake happened in Edo Area in October of 1855. The house of Ryosaku fell down and was burnt. A carpenter named Urajiro repaired the house. Asa had an affair with Urajiro who was maybe a single. Of course, Ryosaku got angry. The husband turned a blind eye because of Urajiro's help and care to his family. But, the wife aggravated him by asking a divorce. Although the husband knew that the wife had an affair with Urajiro, his hate did not get to the point of divorce and he refused to divorce. The wife packed and returned to her mother's family and negotiated with the husband about divorce by matchmaker Jihey. During the period of negotiation, Asa fled into Tokeiji directly, this astonished Ryosaku who knew nothing at all. Maybe the husband battered the wife which resulted in that the wife had sympathy with the carpenter and had an affair with carpenter. Of course, if Asa really had an affair with the carpenter, Tokeiji would not help her. But at last, Tokeiji helped her to obtain divorce.

From the above cases, we can see: first, the means that the temples mainly used when they helped the woman who fled into the temples for divorce was mediation. Forced divorce by temple law was the last means. Before the enforcement measures were taken, if the husband agreed, the divorce would become mediation divorce. Second, taking women's happiness as a priority. The principle which temples insisted in the process of mediation divorce or judgment divorce was defending the happiness of women. In the case of Kane, though Kane also took some responsibilities, but if there was no judgment divorce, Kane would be sold into brothel after she returned home. Asa was as well as Kane. Although Asa was on suspicion of having an affair, Tokeiji helped her to obtain divorce for her happiness. Also there was the case that a sick wife wanted to divorce considering her husband, which the husband disagreed. The wife also went to Tokeiji, and finally obtained divorce, presided by the temple.

Although Enkiridera could help the woman to obtain divorce, the process was not always going smoothly, which may need complex negotiation. In case 1, although Kane realized the desire, she was also punished by the officials. That is to say, women also need to pay a price for obtaining divorce. When the husband disagreed and divorce was temple law divorce, the condition of divorce was grounded in Enkiridera for three years. The

woman had to be grounded for three years although she was innocent. Thus, we can see that the woman in Edo period would be punished when she wanted to divorce; even "Enkiridera" was not an exception. When the divorce was mediation divorce, although the husband was pressed by "Enkiridera", the divorce also needed the agreement of the husband, which asserted patriarchal authority.

The situation that "Mantokuji" participated in the divorce was similar with "Tokeiji". But, also had its own features, which are "Agreement Divorce within the Year" and "Hangengakae".

Agreement Divorce within the YearMantokuji also mediated first and sentenced divorce according to the temple law if the mediation failed. Generally, mediation divorce presided by the temple would benefited both sides. But once the mediation failed, the temple would had to use Enkiridera Law, and forced the two sides divorce by using the official background of Enkiridera, the two sides would both pay a price for divorce, the woman would had to be grounded in the temple for 25 months and lived a life of nun. During this period, the woman could not remarry accordingly, and the man also could not remarry. However, during the period, if the man could not hold on for some reasons, such as he had to bring up the children himself, he would be confined by the livings, or he had other proposal, his attitude may soften and sign the certificate of divorce, he would agree to divorce, and the temple would conduct at this time. This was also considered as mediation divorce, and the divorce was valid. The woman then could leave the temple immediately and remarry. The man could also remarry, this was called "Agreement Divorce within the Year", that is agreement divorce at any time.

Hangengakae. There is also a special situation called Hangengakae, it was a special temple law of Mantokuji, while Tokeiji had not. The so called "Hangengakae" is that considering the special circumstances of the woman, the limit that the woman must be grounded for 25 months could be reduced to 12.5 months after obtaining divorce according to the temple law. The special circumstances were mainly two circumstances: one is the two sides just engaged and did not marry yet, the woman wanted to break off their engagement; the other is the woman who wanted to divorce were not wife but concubine. That is the concubine wanted to dissolve the marriage with the husband. For example, in 1838, Matsu, who was the sister of Heisaburo wanted to break off the engagement suddenly, and fled into Mantokuji, while her future husband did not agree, Matsu finally dissolved the engagement after being grounded in the temple for 12.5 months.

## 3. Why "Enkiridera" Had the Power of Forcing Divorce

The system of "Enkiridera" was a kind of residue of refuge function of temple. The temple has the function of refuge naturally, for it is pure and compassionate place which delivers all the beings for torment and forbid killing. The people who were chased after to kill would get refuge when they ran into the temple. People who were close to starvation would get handout when they ran into the temple. Even the common people sometimes would get free vegetarian food when we walk into the temple. Chinese temples have been like this from ancient time, and so have the temples of Japan. The nunnery would especially take more effort to help the women. It was natural to give refuge for the women who ran into the temples and help them to obtain divorce.

In medieval Japan, the temple was powerful. Some powerful temple even could compete with the secular power, so the refuge function of the temple was very powerful. A lot of exiles、refugees even the criminals had run into the temples to seek refuge. The temple took advantage of their authority and the principle that Buddhism is sacred to prevent hunting from secular power and give shelter for the refugees.

In medieval Japan, the temple which function of refuge was most powerful was Konggobuji of Koyasan. The temple even had a special room to give shelter for refugees, which was called Tankaya. It was a room for absorbing fugitives. No matter how serious crime the fugitive committed, he would escape form punishment and obtain life safety as long as he fled into the temple. So a lot of fugitives, even many political prisoners fled into the temple. Just in 1595, since Toyotomi Hidetsugu committed suicide after fleeing here, the Tankaya function of refuge began to weaken, and disappeared completely by the early time of Edo period

The ability of refuge reflected the real power. In Sengoku period，warlords contended for hegemony and countries strived with each other. The temple established a powerful armed organization Sōhei. The ability of refuge was more and more powerful. But the function of refuge violated the dignity of secular power, and was disgusted and opposed by secular power accordingly. With the ending of Sengoku period and the unification of Japan society, the ability of refuge of the temples was greatly limited and diminished step by step.

The system of Enkiridera which protected woman's right was also diminished and even abolished. Finally, only two temples retained the function of refuge, which were Tokeiji and Mantokuji. As previously mentioned, the reasons that the two temples retained the system of Enkiridera, was that the two temples were both associated with Senhime, which was the granddaughter of Leyasu Tokugawa who was the highest ruler of Japan at that

time.

Tokeiji was established in the Kamakura period, several abbots of Tokeiji were noble. Mantokuji, as mentioned earlier, Senhime who was granddaughter of Leyasu Tokugawa had been lived in the temple and remarried Honda clan later. In view of this relationship, Mantokuji had also established Enkiridera law which permitted to remarry. Other temples had been deprived of this power because they did not have such origins.

We can see that Enkiridera system is only a microcosm of weakening process of temples refuge function. All the nunneries had the function of refuge originally, there were only two temples retained the function with the development of Japan society. In the original nunneries, the woman could ask for a divorce if she ran into the nunneries and lived as a nun for three years. It was clear that one should not have the marriage if she becomes a nun, accordingly she could obtain divorce. Leaving the temple meant resuming the secular life. The woman could remarry after leaving temple. It was a traditional practice that a woman who hated her husband could obtain divorce if she was willing to cut her hair and be a nun for three years in nunneries, this practice was also permitted by the officials. All the nunneries had such function. But, originally, when the nunnery conducted the temple law divorce, the women obtained divorce just after she was grounded in the nunneries for three years and did not need the husband to sign the certificate of divorce. Only after the Enkiridera system was retained by the two temples, the divorce asked the woman must be grounded for enough time and the certificate of divorce signed by the husband was also necessary. It is thus clear that, in order to keep Enkiridera system, Enkiridera made some concessions to cater to the secular system.

It must be said that, not only nunneries, but also other kinds of temples、shrine and so on were all had the similar function. According to the survey data of the writer, temples of Edo period near Yamanosiri village had ever actively participated in divorce dispute of local villagers. According to<<Village head diary of Yamanosiri>>, Rinshoji, a temple located in Yamanosiri village, had participated in divorce mediation of local villagers for 9 times. When the divorce negotiations got bogged down, the officials of the villages which men and women lived in would choose Rinshoji as negotiation venue. Presiding and mediating by the temple, the divorce dispute would be solved broadly. Even there was case that the abbot of the temple participated in divorce mediation directly. For example, Renjoji was another temple near Yamanosiri village, its abbot had actively participated in the divorce of Shinsuke' wife. The divorced couple unexpectedly reunited after the mediation, and even become relatives of this abbot.

## 4. Conclusion

From the above discussion, we can conclude: Enkiridera and other kinds of temples played an important part in the divorce of common people in Edo Japan. Especially when the woman wanted to divorce and the husband disagreed. The Enkiridera would help the woman to obtain divorce by active mediation or even using the temple law, which protected the marriage right of the women and dealt a blow to the absolute right of men to divorce in the patriarchal society, which undoubtedly had a great significance. It can be look as a challenge to the system of divorce in the Edo period. In addition to the Tokeiji and the Mantokuji, although other temples were deprived of the privilege of Enkiridera, they were not completely had nothing with the secular world, on the contrary they also actively participated in divorce dispute of local villagers. Using the advantage that the temple is a place separate from the secular world, the temple played an active role in divorce mediation and tried to protect the happiness of both sides, to deliver all beings from torment.

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# The New Product Online Evaluation by Expert Based on the Analytic Hierarchy Process Method

Pei Li[1], Chao Yu[2], Chunmao Wu[1] & Jianhui Chen[1]

[1] Fashion and Art Design College, Donghua University, Shanghai, China

[2] Cooperative College, Qingdao Agricultural University, Shandong, China

Correspondence: Pei Li, Fashion and Art Design College, Donghua University, Shanghai, 200051, China. Tel: 86-021-6237-3608-809. E-mail: pacywu@126.com

## Abstract

This study analyzed an evaluation method on new product design over the internet. The expert evaluation is an essential part in product producing and consuming chain. The research takes the Tai Huoniao website (http://www.taihuoniao.com) as a thinking point, which used scoring on product design works. The research uses the analysis hierarchy process method in product evaluation, adding a quantitative analysis on expert-rating. The method also brings an influence on product design works in evaluating online. It is evident that the weight of criterion over the expert evaluation is strongly influenced consumer's decision-making. By the way of imposing weight on criterion after expert evaluation, it provides an approach for designer to learn more about how can a new product be assessed on computer screen. The weighting on criterion supports the new product design efficiently. The aim of the research is to evaluate the product design criterion in AHP method so as to meet the consumers' need.

**Keywords:** product design works on computer screen, weighting on criterion, analytic hierarchy process

## 1. Introduction

Shopping has been enriched by the surging of internet. Meanwhile, more and more people begin to purchase clothes and products online, instead of buy from stores and shops. In June 2014, there were almost 632 million people surfing on internet, data came from China Internet Network Information Center 2014. Compared to buy goods in realistic shops, internet is convenient to most of the consumers, without spacial limitation. It also offers a new virtual platform on brand value improvement.

The company provides various of internet services for consumers, even regarding the Internet as a new revival tool (Gupta, S., & Gupta S., 2014). The brand is defined as a network brand, which is the extension of actual brand (Thaichon, Quach, & Lobo, 2013). On the internet platform, brands offer products and services to consumers effectively (Dewan, Jing, & Seidmann, 2015). Therefore, on the background of modern scientific and technological network, as a new tool for traditional company, the internet primarily supports product promoting and propagandizing, offering more detailed information about product online.

We study the product evaluation online based on expert rating, mainly for three reasons. First, the key factors is the quality improve process (Lascelles & Dale, 1990). But when consumers get the products from internet, not all of them are satisfied. Researchers study online shopping in consumer intention (Chiang & Dholakia, 2003) consumer emotion and satisfaction (Westbrook & Oliver, 1991), collaboration online (Ta, Esper, & Hofer, 2015), and so on. We study on the expert rating that would support for product design works shown online, which is an important part in decision making on whether the product would produced or not. The rating result will affect consumer's decision directly.

Second, a part of website set up expert rating for new product design, and crowd-funding held online too. Taking Tai Huoniao as an example, it begins to share information about new new product design to designers, consumer and company on internet service platform. Consumer scoring is a part of product design works evaluation and crowd-funding. It also shows some data on how to improve the new design works indirectly. Designers can get the expert and consumer's feedback on the data platform.

The experts join in the producing and servicing process, and they take an important part in deciding the product

whether producing or not. The weight on product evaluation imposes an effective factor on producing process. The internet platform offers a chance for consumer to choose the product that they like. Without professional education on design, it is hard for consumer to forecast the potential problems while producing. The company will produce the design works which own high scores, evaluating by consumer and expert.Consumer that taking part in crowd-funding will earn rebate feedback since the products are sold.

## 2. Literature Review

### 2.1 Product Evaluation Methods

Internet became a main tool for product design innovation (Wind & Mahajan, 2002). It brought a new economy to brand, especially online shopping and product evaluation appeared (Reddy & Raju, 2016). Customers were involved in product design and evaluation process with the support of internet techniques (Dahan & Hauser, 2002). Product designers presented their works online and got more ideas from others after interaction (Kozinets, 1999). The fact showed that the emergence of the Internet has already brought a great number of factors to the brand strategy, strengthening the market competition (Simmons, 2007). Compared to the traditional sales model, the information is passed by internet to be more effectively. Meanwhile, even the market has been operated more efficiently than before, it still offered an opportunity for designer to evaluating product satisfaction. Consumers could check the detailed information of the product on internet (Ward & Lee, 2000). Therefore, in order to satisfy consumer's demanding, a number of product evaluation emerged online.

Collaboration with variable participants was a way to strength the brand competitiveness (Gulati, Norhia, & Zahere, 2000; Iansiti & Levien, 2004). The third parties composed by expert, who did not have profit relationship with company and consumers, were able to achieve the evaluation on product without bias (Sawhney, Verona, & Prandelli, 2005). The product evaluation imposed weight on criterion. It leaded to scoring more suitable. The score from expert decided on which product owned more opportunity to produce. The expert rating product owns its biases (Ashby, Walasek, & Glockner, 2015). For products evaluation, the previous rating affected the latter one's choosing behavior (Moe & Trusov, 2011). The paper supposed to put weight on criterion layer, adopting the weight scoring. Due to the differences physical characters in product design works, the weight on the product design works supported by the expert-scoring.

Crowd-funding was a communicating relationship which based on the crowd, gathering fund to support the collective action, which was sponsored by related organization and person (Ordanini, Lucia, Pizzetti, & Parasuraman, 2011). Through the internet platform, brand and designers both induced the demanding of funding and managed the project. Therefore, the crowd-funding helped the product to be formed efficiently and met consumers easily. Before crowd-funding, consumers and expert evaluated product design works from different view, that could be supported by the weight on product evaluation criterion.

### 2.2 New Product Evaluation Methods (NPEM)

There are many methods on new product evaluations.One of the stage is concept testing of expert opinions, which based on the opinion of different experts who have insights for product design and positions, including the predicting for the product consuming process (Ozer, 1999). Actually, experts have different opinions on new product. Analysis hierarchy process is also support the knowledge management (Ngai & Chan, 2005). Analysis hierarchy process is a method for product evaluation, which was proved by researchers. Researchers use the analysis hierarchy process method on product evaluation research through the screening decision (Calantone, Benedetto, & Schmidt, 1999). There are many papers used AHP method in different areas (Forman & Gass, 2001; Ho, 2008; Liberatore & Nydick, 2008; Ishizaka & Labib, 2009). The advantage of the evaluation method is used in product design.

## 3. Research Methodology: Analytic Hierarchy Process Model

### 3.1 Analytic Hierarchy Process (AHP)

The analytic hierarchy process (AHP) was set up by T. L. Saaty. In this study, the criterion weight was came from the AHP, which used in architecture and lead to effective decision-supporting (Saaty, 1982; Calantone et al., 1999). The AHP rated support the decision theory and measured elements by weights (Vargas, 1990). Actually, the evaluating criterion owned different weights.

Analytic hierarchy process was for qualitative and quantitative study, it used in many areas. AHP was a technique for multi-criterion decision making (Saaty, 1990). In the matrix equation, Thomas L. S.(1990) assumed the weights of $w_1$, ..., $w_n$ are separately for $A_1$,..., $A_n$. The AHP method evaluated the evaluation on decision-making process. It included criterion and rating on decision-making, so as to impose the judge items with weight. The AHP was a linear relation of the criterion for product evaluation. The AHP was also the basis of

fuzzy analytic hierarchy process, it dealt with the variables of ambiguous linguistic (Cho & Lee, 2013). The paper used the AHP method on new product evaluation, mentioned in Thomas L. S. (1990). There were variable factors in product design, they lead product design to a comprehensive problems solving process. The design evaluation put weight on criterion, was superior to simple equal scoring. The decision on design works produced or not, the result would be more qualified.

*3.2 Implementation Procedure of AHP*

Saaty studied the AHP method in 1980. There was six steps can be concluded from the former studies (Saaty, 1980). The six steps explained the methodology of AHP (Bhushan & Rai, 2004).

Step 1 The AHP was composed by three layer, including goal and criterion. The three layers were composed the evaluation system. It stated the relationship among each level and each criterion. The result of weight would indicate the ranking of criterion. Even it was a part application of the AHP.

$$A = (a_{hk}), h, k = 1,2,3,...,n. \tag{1}$$

Step 2 Experts gave scores on each criterion data were collected for support the AHP goal. The product design works were rated by extremely good, very good, good, equal, bad, very bad, and extremely bad. The score could be collected as Table 1.

Table 1. Format for evaluating criterion scores

| Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Score on product | Extremely bad | Very good | Little good | Good | Equal | Bad | Little bad | Very bad | Extremely good |

Step 3 The score on criterion were used in a square matrix for pair comparison. The (n, k) factor in the matrix was the reciprocal of (k, n) factor. The matrix had the form as follows. If the result of *n*th row was much better than *k* th column, the value of (n, k) was more than 1; however, the (n, k) element stood for the (n, k) element of the matrix.

$$A = \begin{bmatrix} 1 & k_{12} & \cdots & k_{1n} \\ 1/k_1 & 1 & \cdots & k_{2n} \\ \vdots & \vdots & \cdots & \vdots \\ 1/k_{1n} & 1/k_{2n} & \cdots & 1 \end{bmatrix} \tag{2}$$

Step 4 The matrix gave the relationship on various criterion. The weights could be calculated by the ratings.

Step 5 The CI was used as consistency index.

$$CI = (\lambda_{\max} - n)/(n-1) \tag{3}$$

$$CR = CI / RI \tag{4}$$

Step 6 Rating each criterion by the weight.

Table 2. Random index of analytic hierarchy process (AHP)

| order | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RI | 0.00 | 0.00 | 0.58 | 0.90 | 1.12 | 1.24 | 1.32 | 1.41 | 1.45 | 1.49 | 1.51 | 1.48 | 1.56 |

The AHP put weights on each criterion. The result represented which criterion was more important than the others, including the weight on each evaluation criterion. When consumer gives rating on product design work criterion, the final result will be more useful.

*3.3 New Product Design Evaluating Criterion*

There are many researches on new product development evaluation. The new product design was evaluated by different criterion. Analytic hierarchy process is a stage for inform designers make a good decision (Turan & Omar, 2014). It is used in the first stage of evaluation and analysis of conceptual product design (Ayag, 2005). The ranking from expert and consumer on design evaluation has been more efficient for design. Production cost relates to economical criterion. Aesthetic impression is the result of product perception, which implies consumer

preferences (Chou, 2011). The new product can be improved on computer screen, where the information and details are exhibited; AHP is a decision making model (Calantone et al., 1999). Durability, quality of the materials and assembles are related to the product evaluation. The weights are based on the intention, and the parameters of the product are based on the product characteristic (Remery, Mascle, & Agard, 2012). On the design characters of the product, the evaluating criterion is set up.

## 4. Case Study

### 4.1 Development of New Product Evaluating Model

4.1.1 The New Product Scoring Method Used Now

The expert scoring is a process among different evaluations on Tai Huoniao. The new product which got high score will be produced after crowd-funding. While, five experts merely post evaluation on all design works from four aspects, including design (40 percent), utility (30 percent), appearance (20 percent) and creative idea (10 percent). All of the product design works own the same weight and criterion. No weight on the product evaluation mentioned on the brand website.

4.1.2 The AHP Method on the New Product Scoring

Consumer influenced by the product scoring from experts, but expert and consumer were rating the same product in different ways, while the low-status person always influenced by the choice of the high-status ones (Jacobsen, 2015). The conceptual product inter-design works are from the workshop China-South Korea-Japan collaborated workshop in March 2016. The product was designed by a group of master students. The four steps concluded from the design method (Hsiao, 2002), as follows.

(1) Market investigation and product analysis

To design the eating tool for people, the kimchi plate design was studied in workshop, detail stated in following. First designer asked 10 consumers the same question, "what do you think is the five important criterion in plate design works evaluation?". The question also asked to 3 experts and 3 designers. After communicated with all participants, the conclusion was shown the five most important criterions.

(2) Design goal and criterion

The data from the expert evaluation were qualified by the analysis hierarchy process method. After asking 16 persons about their opinion on plate using experience in daily life, there was a five most focused point on how to design a kimchi plate. The criterion set up on multi-variable participant idea. The criterion included the innovation, aesthetic, economic, function, and security. More details were as follows,

➢   Easy handle.

➢   High quality and good material.

➢   Low price.

➢   Use safely and surface smoothly.

➢   Look good color and shape.

➢   Touch well.

(3) Idea developed in design works

The five design criterion were formed a goal in Table 3. All the criterion of evaluation for the goal of the new product evaluation was decided by the quantitative study on designers, experts and consumer.

Table 3. The new product evaluation method

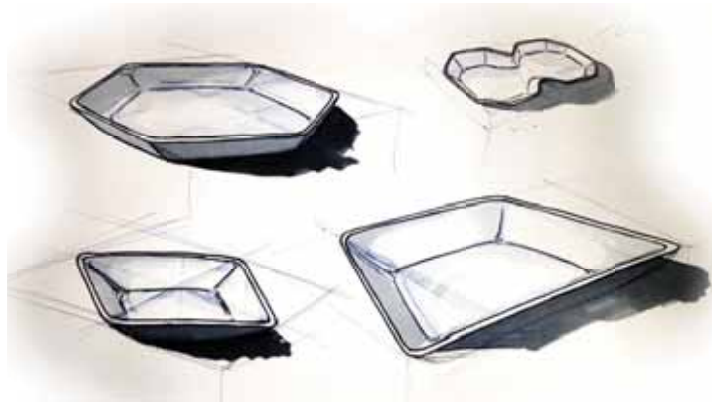| Goal | Criterion |
|---|---|
|  | Innovation（$B_1$） |
|  | Aesthetic（$B_2$） |
| The new Product Comprehensive Evaluation：Plate Design | Economic（$B_3$） |
|  | Function（$B_4$） |
|  | Security（$B_5$） |

(4) Product evaluating online



Figure 4. A drawing of kimchi plate



Figure 5. A design work of kimchi plate



Figure 6. A design work shown of kimchi plate

According to the analytic hierarchy process method, we set up the new product evaluation Method. The goal set on the product design evaluation, including the quantitative research among consumer, expert and designer. According to design elements evaluation, the main goal was to achieve weighting on product evaluation items. After design research, the criterion layers composed by innovation ($B_1$), aesthetic ($B_2$), economic ($B_3$), function ($B_4$) and security ($B_5$) as shown in Table 3. The sub-criterion were not denoted, the expert owned different

backgrounds, while evaluating the new product on computer screen on their personal views, it presented more standard and accurate decision (Ozer, 2005; Brown & Eisenhardt, 1995).

*4.2 Analysis and Results*

The results provided an evaluation for kimchi plate design works. In the study, we applied the AHP method to put weight on the criterion, which would improve the decision making more efficiently. Scores given were used for construct the weight in the matrix in Table 8. The matrix consisted of five categories: innovation, aesthetics, economic, function and security. Each one scored one point value among 1 to 9 in Table 7. The rating system was built on 9-point scale.

As the three experts own similar background, the each criterion scores was totally divided by three. So, the innovation score is 16/3, aesthetic is 22/3, economic is 19/3, function is 23/3, security is 22/3.

Table 7. The expert scoring on the plate evaluation

| criterion | Expert No. | Evaluating criterion scores (1=extremely bad; 9=extremely good) | | | | | | | | | Details |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| Innovation（$B_1$） | A | | | √ | | | | | | | |
| | B | | | | | √ | | | | | |
| | C | | | | | | | | √ | | |
| Aesthetic（$B_2$） | A | | | | √ | | | | | | The given score by expertise shown by the signal of "√". |
| | B | | | | | | | | | √ | |
| | C | | | | | | | √ | | | |
| Economic（$B_3$） | A | | | | | | | √ | | | |
| | B | | | | √ | | | | | | A, B, C in table stands for the expertise order. |
| | C | | | | | | | √ | | | |
| Function（$B_4$） | A | | | | | | | √ | | | |
| | B | | | | | | | √ | | | |
| | C | | | | | | √ | | | | |
| Security（$B_5$） | A | | | | | | √ | | | | |
| | B | | | | | | | | √ | | |
| | C | | | | | √ | | | | | |

Table 8. Comparison matrix for criterion

| criterion | Innovation | Aesthetic | Economic | Function | Security | Normalized Weight |
|---|---|---|---|---|---|---|
| Innovation | 5.33/5.33=1 | 5.33/7.33=0.73 | 5.33/6.33=0.84 | 5.33/7.67=0.69 | 5.33/7.33=0.73 | 0.16 |
| Aesthetic | 7.33/5.33=1.38 | 7.33/7.33=1 | 7.33/6.33=1.16 | 7.33/7.67=0.96 | 7.33/7.33=1 | 0.22 |
| Economic | 6.33/5.33=1.19 | 6.33/7.33=0.86 | 6.33/6.33=1 | 6.33/7.67=0.83 | 6.33/7.33=0.86 | 0.19 |
| Function | 7.67/5.33=1.44 | 7.67/7.33=1.05 | 7.67/6.33=1.21 | 7.67/7.67=1 | 7.67/7.33=1.05 | 0.23 |
| Security | 7.33/5.33=1.38 | 7.33/7.33=1 | 7.33/6.33=1.16 | 7.33/7.67=0.96 | 7.33/7.33=1 | 0.22 |
| $\lambda_{max}$ =5.00, CI=0, CR=0<0.1 | | | | | | |

In the evaluation model, the designer revised design products, according to the expert given weight and consumer can rate the product evaluation criterion in the following. The consumer scoring was not the key point in the study. After using the method of analytic hierarchy process, the result was valid as CR <0.01. Each criterion rated by the different weights.

The evaluation model was used for virtual product design assessing. The case study shown that the products got weights on criterion from experts, and it led to the scoring from consumer more useful. Table 8 used the application of the AHP matrix model, which shown the weight on criterion from expert rating. As shown in Table 8, the result of plate assessment with regard to the criterion is based on the data in Table 7. In this example, each criterion became a uni-factor. The final weights of the product design works were assigned by the AHP method. After the rating from the consumer, the product evaluation system would offer the final score after imposed the weight.

This example suggests that a product design evaluation model would be devised to the detailed layer. We expect that this evaluation model could be used to analyze the product design vital works and to bring more opportunity to improve product design before producing.

## 5. Discussions and Conclusions

### 5.1 Discussions of the Study

The study began from more than one year ago in a PhD student's course "Brand Innovative Introduction". The research mainly focused on brand product rating online. In this year, using the evaluating method on the product design works of China-Japan-Korea collaborated workshop, the final work was presented on computer screen, the same as presenting online.

In the product evaluating process, the expert considered problems before the product produced. For example, the plate was difficulty to handle or too heavy. The problem would be solved by designers. Furthermore, the criterion gave the expert a main direction on rating. After using the AHP method, each items had a denoted weight, rather than equal. Therefore, the AHP not only could be used in design work assessment, but also good for product usability.

Multiple of company used the product evaluation online. Consumer checked the score from others and weight for each criterion. However, the weight of expert improved the product quality, while, consumers usually shared with others about product using experience. In this situation, the AHP was required for weight on criterion. Though a plate was taken as an example in the research, this method could be used in many other product evaluations online too. It leaded to a more quality way on control high quality of products. Since the evaluation was given by expert and presented online, consumers would consider it before crowd-funding. The evaluating order was important. Expert took an important role on producing process because after expert rating, consumer could give a score on product design works and crowd-funding online. Once the designed product was produced, it will match the market need.

The development of internet technology applied a wider space for brand development and promotion. Over the internet, the brand provided much better products and services. At the same time, in order to reduce the storage and wastes, based on the consumer's demanding, product design and selling would be aimed. Under the weighting on expert evaluating method, not only could it provide information to the producer, but could also sent the useful data to designer who would design good product, it would lead the design trend to satisfy the consumer's pursuing.

### 5.2 Conclusions of the Study

The study made a contribution to the new product design works evaluation. From a theoretical view, this study made contribute in several ways. To improve the product in competitive market effectively, it is important for company to develop a high quality product and fit the consumer's need. In this study, the method AHP for evaluating a design work can draw the conclusions as follows. First, the AHP method can be used in new design works qualify evaluation. Each criterion imposed different weight in AHP method by experts, the results can be seen by consumers. The results will offer some help for consumer decision. The result offers an advice for consumer crowd-funding. Second, the criterion is decided by designer, expert and consumer, after quantity research process and conclusion. The parameters can be more qualified. With this method, the expert can give rating on product and shown online, the result is visible by consumer and designer too.

The study also transforms the expert scoring into product evaluation criterion, puts weight on design evaluating criterion before which product design works produced. Therefore, the results of the study have an important effect on online product design works evaluation. For example, the consumer might consider all criterion equally, as they do not own design education background, it is quite difficult for them to decide which factor is important.

### 5.3 Limitations and Future Research

There are few limitations in the study. First, the study researches on new product design evaluation, meanwhile,

analysis hierarchy process method is the main method. Therefore, the way to chooses three experts owns disadvantages. The expert number can be added in the following research. Second, our proposed a model focuses on the weight from the score of expert evaluation. The experts do not own any weight on their score for product design works. However, it is helpful to add weight on criterion before consumer scored. Future research can improve the model by increase the number of experts. Finally, the weight from expert maybe influenced by the expert characters, including age, education level, work experience and so on. In the future work, there are many various methods on product design evaluation methods, which can study on different factors, it is helpful on product design works whether produce or not.

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