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Understanding Faculty Collaboration and Productivity: A Case Study

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Abstract

Research productivity has been always an important part of every academic's job, since it has a profound effect on faculty promotion and tenure decisions. In addition, some scholars believe that co-authorship between faculty members has a great impact on their academic life and faculty advancement. Since 2005, the Ministry of Education of Taiwan (MOE) has developed two university programs and evaluation policies for improving the competitiveness and internationalization of Taiwan universities, and has clearly stated that there is a strong relationship between faculty promotion and research performance. However, none of them has used social network analysis (SNA) to examine research productivity and co-authorship under two university programs and evaluation policies from MOE in Taiwan. Therefore, in this study, we first uses SNA to analyze the research productivity, collaboration patterns, and publication strategies of faculty members in a Management Information Systems (MIS) department at a national university in Taiwan. Then, we used D3, a well-known drawing tool to create data visualization using JavaScript libraries, to visualize and discuss how these two university programs and evaluation policies from the MOE affected these patterns and strategies. We hope that our study not only provides beneficial information to the MIS department, but can be treated as an important source for MOE committees in their future adjustment of university programs and policies.

Keywords: Social Network Analysis, D3, Co-authorship, Data Visualization, Research Collaboration Patterns and Networks, Research Productivity, Journal Publication

1. Introduction

Research productivity is a primary part of any academic's job (Jones et al., 1989; Salthouse et al., 1978), as it is a crucial influence on faculty promotion and tenure decisions. For this reason, some scholars have 1) measured the impact of faculty's research output (Albrecht et al., 2015); 2) analyzed the factors that affect the research productivity of production and operational management groups (Hadjinicola & Soteriou, 2006); 3) discussed trends in senior faculty productivity over time (Bonzi, 1992); and 4) investigated the journal publications of MIS departments in Taiwan from 2001 to 2008 (Lai et al., 2011). In Taiwan, research productivity is also an important part of most universities. According to Chou (2014), the Ministry of Education of Taiwan (MOE) developed its Program for Promoting Academic Excellence in universities (PPAE), Aiming Top University & Elite Research Center Development Plan (ATU Plan), and formal university evaluation policy in 2005, where the aim is to improve the competitiveness and internationalization of Taiwan universities. By having these two university programs and this evaluation policy, MOE established a strong relationship between faculty promotion and research performance in which research performance is evaluated based on impact factors and number of publications in SCI-, SCIE-, SSCI-, TSSCI-, and A&HCI-indexed journals. Because of this, many departments established recommended journal lists (henceforth referred to as A-lists) for faculty promotion purposes. Similarly, the Ministry of Science and Technology of Taiwan (MOST) also published recommended journal lists (henceforth called MOST lists) for several categories (e.g. recommended journal lists from the Information Science & Library Science category (Liang, 2013)), which encourage Taiwanese scholars to submit their papers to the recommended journals in their field in order to get more research funding. Because of the above reasons, Asian scholars put much more effort into their research productivity than do their Western colleagues (Horta & Jung, 2014).

In addition, some scholars believe that co-authorship between faculty members (e.g., writing research project

proposals, conducting research projects, or writing conference/journal papers) is important, and has a great impact on their academic life and faculty advancement. Knowing the significant impact on co-authorship, Fox and Faver (1984) conducted semi-structured in-depth interviews with a few social scientists, and discussed the advantages, disadvantages, and motivations of collaboration based on the points of view of social scientists. In addition, other scholars measured: 1) the patterns of scientific collaboration in bibliographic databases in biology, physics, and mathematics (Newman, 2004); 2) differences in collaboration experiences across different disciplines (Tsai et al., 2016); 3) the evolution of collaboration in multi-authored publications from the Physical Review journals database (Wardil & Hauert, 2015); 4) patterns of scientific collaboration in tourism research (Benckendorff & Zehrer, 2014); 5) scholarly influence, scientific collaboration, antecedents to co-authorship, and effect of co-authorship in five leading Information Systems (IS) journals (Gallivan & Ahuja, 2015); characteristics and patterns in the field of additive manufacturing (Zhang et al., 2016); 6) examining whether international collaboration is beneficial in biochemical research (Sud & Thelwall, 2016); and 7) discussing the good and bad of research collaborations across a range of scientific and engineering disciplines (Bozeman et al., 2015).

Most of the work mentioned above analyzed the collaboration or research productivity patterns in an academic discipline, but none of them examined how the two university programs and evaluation policy established by the MOE affected research productivity and co-authorship in Taiwan. As mentioned previously, MOE established two university programs and an evaluation policy for increasing the internationalization of Taiwan universities in 2005, and therefore, it is important that one study can investigate whether these two university programs and this evaluation policy affects faculty members' collaboration and productivity patterns. Moreover, Li et al. (2013) and Burt et al. (2013) both also observe that social network analysis (SNA) is an effective way to analyze collaborative research papers. Therefore, in this paper, we first used SNA to analyze the research productivity, collaboration patterns, and publication strategies from a Management Information Systems (MIS) department at a national university in Taiwan. Then, we apply D3 (2016), a well-known drawing tool to create data visualization using JavaScript libraries, to visualize how the two university programs and the evaluation policy affect faculty collaboration, research productivity, and publication strategies in an MIS department at a national university in Taiwan (henceforth known as MISU). In our paper, we consider the following questions:

- Q1. Do faculty members tend to publish papers alone? Or do they tend to publish co-authored papers with others?
- Q2. Do faculty collaboration patterns change with respect to their academic positions?
- Q3. Do senior faculty members tend to collaborate with other junior faculty?
- Q4. Do faculty members tend to collaborate with others within or across Taiwan?
- Q5. Do these two university programs and evaluation policy from MOE affects the collaboration patterns?
- Q6. Do faculty members place more emphasis on publishing more "quality" or "quantity" papers?
- Q7. Do these two university programs and this evaluation policy from the MOE affect research productivity patterns?
- Q8. What are the publication strategies among these MIS faculty?
- Q9. Are the publication strategies related to the recommended journal lists (e.g. MOST or A-list)?

On the other hand, we applied SNA and D3 to study the visualize the following: 1) the evolution of MIS faculty collaboration patterns; 2) collaboration patterns with others within or across Taiwan; 3) collaboration patterns according to faculty academic positions; 4) collaboration patterns after MOE introduced its two university programs and its evaluation policy; 5) research productivity patterns among MIS faculty; 6) research productivity patterns of senior faculty members; 7) research productivity strategies after the MOE introduced these two university programs and this evaluation policy; 8) publication strategies after the MOST and A-lists were created. After obtaining all of the analysis, we concluded our observations on collaboration patterns, research productivity, and publication strategies. We believe that these observations can provide initial guidance to MIS faculty members for their future faculty advancement and tenure decisions. In addition, we believe that our study can be treated as an important resource for the MOE committees for future adjustments/improvements on university programs and the evaluation policy.

The remainder of this paper is organized as follows. Section 2 of this paper discusses related work, and Section 3 describes how we collected and analyzed our data. Section 4 provides the visualization of our data. In Section 5, we provide some discussion, followed by the conclusion and recommendations. In Section 6, we discuss the limitations and future work.

2. Related Work

In this section, we discuss some relevant work, which addresses: 1) social network analysis, 2) knowledge maps and their application, 3) information graphics and data visualization

2.1 Social Network Analysis

The study of social networks has been developed to analyze social relations, and has been widely applied to several real-life scenarios. By definition, a social network is a social structure composed of social actors, dyadic ties, and social relationships among social actors (Liu et al., 2015). Social network analysis (SNA) first connects the relationships between social actors, where these social actors may be referred to individuals, organizations or family (Scott, 2002). Next, SNA analyzes the behavior of their social network activities with organizations, interpersonal relationships, partnerships, etc. (McAndrew & Everett, 2015). According to Wasserman & Faust (1994), SNA is an integration of social theory, observational studies, mathematical statistics, graphics, and other scientific disciplines. Some papers have adapted SNA to study the bibliometric co-authorship network (Zhang et al., 2014; Mena-Chalco et al., 2014), relationship between music writers and their partnerships (McAndrew & Everett, 2015), and the relationships among social platforms such as Facebook or Twitter. Similarly, in this paper, we also apply SNA to analyze faculty members' research productivity, collaboration, and publication strategies.

2.2 Knowledge Maps and Their Application

Yoon et al. (2010) state that because of the rapid growth of knowledge creation, knowledge maps are an important research tool for successful knowledge management, and have been widely applied in bibliometrics, scientometrics, and other informatics fields (Xiao et al., 2013). Knowledge maps allow people to visualize data that displays the progress, structural relationships, or pattern flow of scientific knowledge (Chen & Liu, 2005). Since knowledge maps can describe the relationships between nodes, they are often combined with social networks to investigate and analyze data. Recently, knowledge maps have been applied to several fields, mostly library and information science and bibliometrics. Most research uses UCINET, Bibexcel, or Citespace to create knowledge maps. The six types of knowledge maps include: 1) Two Dimensional Scientometric Map (2DSM); 2) Three-Dimensional Configuration Map (3DCM); 3) Multi-Dimensional Scaling Map (MDSM); 4) Self-Organizing Map (SOMP); 5) Social Network Analysis Map (SNAM); and 6) Path Finder Network Scaling Map (PFNET). In this paper, we apply social network analysis maps (SNAM) and path finder network scaling map (PFNET) to describe the collaboration between faculty members for our study.

2.3 Information Graphics and Data Visualization

Traditional data visualizations were originally taken from statistical graphics, and are related to information graphics, visual design, etc. According to Ware (2012), data visualization can be classified into four types: 1) temporal data visualization, 2) hierarchical and network structural data visualization, 3) text and cross-media data visualization, and 4) multivariate data visualization. However, with the high multi-dimensionality and massive quantities of data now in circulation, these traditional data visualizations cannot handle such high loads of information. Therefore, modern data visualization would need to handle the following characteristics: 1) able to analyze specific data, 2) has enough spatial distribution, 3) can offer high-dimensional display. Some of the well-known data visualization drawing tools which try to solve the above characteristics are: 1) D3, 2) Bibexcel, 3) CiteSpace, 4) TDA, and 5) Ucinet. Since our study focuses on relationships and collaboration between authors, we apply gravimetric maps and CSS from D3 for our experiment.

3. Data Collection and Foundations

In order to examine faculty collaboration and research productivity, we conducted an experiment that analyzed all the faculty members from an MIS Department at a national university in Taiwan (which we will call MISU). We first retrieved our data from the Ministry of Science and Technology of Taiwan (MOST), Journal Citation Reports (JCR), Web of Science (WOS), Google Scholar, and Google. There were total of 16 faculty members in MISU, 5 of them listed as professors, 4 as associate professors, and 7 as assistant professors. Among these faculty members, 11 were male and 5 were female. A total of 10 professors obtained their PhD degrees in the United States, 1 obtained a PhD degree in the United Kingdom, 1 obtained a PhD degree in New Zealand, and 4 obtained PhD degrees in Taiwan. Since our study only focuses on analyzing faculty collaboration and productivity based on journal publications, we filtered out the conference papers from their publication lists. After we finished collecting and cleaning data from these websites, we organized the data into the following five relational tables: 1) authors and articles table; 2) authors and periodicals table; 3) articles and years table; 4) authors and universities table; 5) articles and periodical table. After creating all five relational tables, we converted the data to the D3 format, and finally used D3 to present the final results. The steps of information

retrieval, information processing, and information presentation are described in Figure 1, and the detailed steps are described in the following subsections.

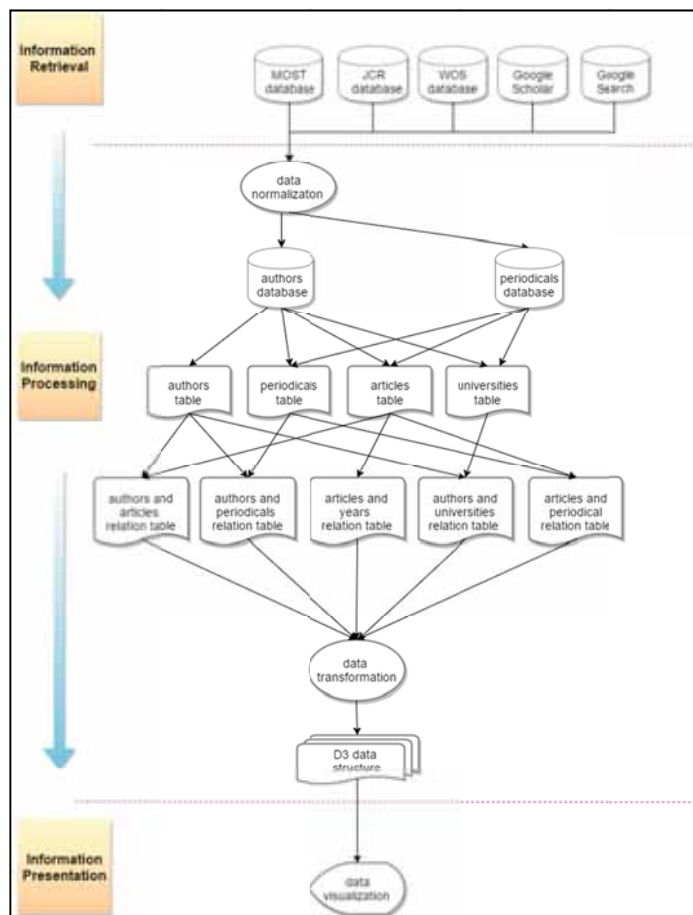


Figure 1. System Flow Diagram

3.1 Information Retrieval

Our data was first retrieved data from: 1) the Ministry of Science and Technology of Taiwan (MOST) website, 2) the Journal Citation Reports (JCR) website, 3) the Web of Science (WOS) website, 4) the Google Scholar website, and 5) Google. There were total of 393 journal articles published in MISU from 1992 to 2016. After we eliminated duplications, we had 378 publications left. Based on these 378 journal publications, we discovered that the MISU faculty members had collaborated with 133 MISU PhD/MS students, 215 people (including both faculty members and students) from other institutions in Taiwan, and 33 faculty members from other countries. From these statistics, we can see that the MISU faculty members tend to collaborate with others in Taiwan, but not with others across countries. For journal indexing, we referred to SCI/SSCI information from the JCR website in 2014 and TSSCI information from the MOST website in 2015. After we finished the duplication process, we separated the data into the following attributes: 1) year; 2) article title; 3) author; 4) periodical title; and 5) abstracting and indexing.

3.2 Information Processing

We normalized the data after gathering all of it. Since some of the information huddled together into one column, we normalized and placed them the correct columns. Next, we fixed the abbreviation problems for the authors and journal titles that were listed in an abbreviation format. For some mistyped information (e.g. author names, article titles), we fixed them according to the Web of Science (WOS) website. Third, we de-duped the data that were displayed more than once. Fourth, we separated the cleaned data into two databases: 1) authors database; 2) periodicals database. Fifth, we applied these two databases and further created four tables: 1) authors table; 2) periodicals table; 3) articles table; 4) universities table. Furthermore, we applied these four tables and created the following five relational tables: 1) authors and articles table; 2) authors and periodicals table; 3) articles and years table; 4) authors and universities table; 5) articles and periodical table.

3.3 Information Presentation

After we had completed the steps from Section 3.2, we next calculated the following: 1) contribution score; 2) year score; 3) degree centrality score. After all of the calculation values, we drew our graphs using D3, a well-known drawing tool to create data visualization using JavaScript libraries (Scott, 2012). D3 was created by Mike Bobstock (2016) as one of many open-source projects produced with other developers, and is released under the three clause BSD license. D3 allows developers to use, fix, or place codes for business- or non-business-related purposes without any cost. We use gravimetric maps and CSS to create interactive web pages that show text functionality. The calculations used in D3 were described in the following sub-sections.

3.3.1 Contribution Score

Before calculating the contribution score, we retrieved the following attributes from our periodicals database: 1) journal ID; 2) abstracting and indexing; 3) impact factor; 4) journal ranking; 5) ISSN. Next, we identified the orders of authors, and set placement=1 if there was only one author in the article. Since several works believed that the first author is usually the person who has taken the most responsibility and work (Reisenberg & Lundberg, 1990; Kennedy, 2003; Rennie et al., 1997; Mattsson et al., 2011), we placed more weight to the first author when there were more than one authors contained in an article. The placement is thus calculated as below:

$$\text{Placement} = \begin{cases} 0.5, & \text{1st author} \\ \frac{0.5}{n-1}, & \text{others} \end{cases}$$

For example, if there were four authors (author A, author B, author C, and author D), and author A was the first author, then the placement for author A was 0.5, and the places for author B, author C, and author D were all equals $0.5/(4-1)=0.167$. After that, we calculated our journal rank according to the following table:

Table 1. Journal Ranking with corresponding score

Quartile in Category	Q1	Q2	Q3	Q4	Other
Rank	4	3	2	1	0

For example, if an author published an article that belonged to Q1, then this author got score=4. Finally, we calculated our contribution score as follows:

$$\text{Contribution} = \text{Placement} * \text{Rank} \quad (c)$$

For example, if an author had a placement score=0.5, and the journal belonged to Q2, then this author would get final contribution = $0.5 * 3 = 1.5$.

3.3.2 Contribution Score with EWMA

In order to calculate and present the evolution of the faculty collaboration and research productivity, our study further adapted Exponential Weighted Moving Average (EWMA) to calculate the contribution score with respect to the publication year. In short, EWMA is an algorithm that orders elements according to time, and places the weights according to recency (i.e., it places the highest weight on the most recent element, and lowest weight on the least recent element). For example, articles published in 2016 would have higher weights compared to articles published in 2015, and articles published in 2015 would have higher weights compared to articles published in 2014, and so on. We calculated our contribution score using EWMA as follows:

$$\text{Contribution_EWMA}_t = \begin{cases} \text{Contribution}_1, & t = 1 \\ c \times \text{Contribution}_t + (1 - c) \text{Contribution_EWMA}_{t-1}, & t > 1 \end{cases}$$

Where:

- c: the smoothing factor, $0 \leq c \leq 1$
- Contribution_EWMA_t: the output of the contribution score with EWMA at time t
- Contribution_t: the current contribution score

For example, if $c=0.97$, and an author A published one paper as a first author in 2015, and published another paper as a first author in 2016, then the total contribution score with EWMA would be $= 0.5 + 0.5 * 0.97 = 0.985$.

3.3.3 Degree Centrality Score

In order to visualize and capture the collaboration and productivity of the faculty network, we used three network centralities (Newman, 2004) to examine the most important nodes in the faculty network: 1) degree

centrality; 2) betweenness centrality; 3) closeness centrality. We describe each centrality in the below paragraphs.

1. Degree Centrality

Degree centrality is a simplest way to measure the most important or central nodes in a network, where it basically measures the number of neighbors of each node. A node with a high degree of centrality is likely to be important since it might: 1) have more influence on several nodes in the network, 2) help spread information in the network faster, 3) obtain more reputation than other nodes that have fewer neighbors. The calculation of degree centrality is described below:

$$C_D = \frac{\sum_{i=1}^g [C_D(n^*) - C_D(i)]}{[(N - 1)(N - 2)]} \tag{a}$$

where:

- $C_D(n^*)$: the maximum connections in the network
- N : the total number of nodes in the network

For example, Figure 2 shows that the central node has the largest radius, since it has several connections to five other nodes. Other nodes only have one connection to the central node. Therefore, the C_D for the central node would be:

$$C_D = \frac{(5 - 1) + (5 - 2) + (5 - 3) + (5 - 4) + (5 - 5)}{(6 - 1)(6 - 2)} = 1 \tag{b}$$

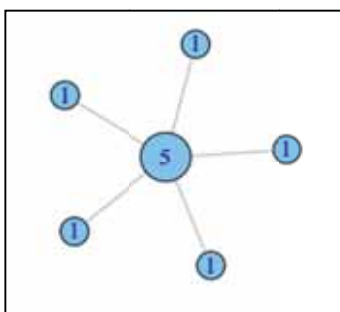


Figure 2. Example of Degree Centrality. Source: Mascolo (2012)

The range of C_D is between 0 and 1. When the value of C_D is closer to 1, it means the node has a higher degree of centrality plus higher connections to other nodes. Therefore, we use a similar strategy to measure the collaboration between faculty members, such that when a faculty member has many collaborations with others, he/she would have a higher degree of centrality value in the network.

2. Closeness Centrality

Closeness centrality is a way to measure the average distance from a node to other nodes. A node with high closeness centrality has shorter distance to other nodes, and therefore, it would have quicker access to the other information, to stop epidemics or to influence other nodes in the network. The calculation of closeness centrality is described below:

$$C_C = \left[\frac{\sum_{j=1}^N d(C_C(i), j)}{N - 1} \right]^{-1} \tag{d}$$

where:

- $d(C_C(i), j)$: the distance between current node ($C_C(i)$) and j
- N : the total number of nodes in the network



Figure 3. Example of Closeness Centrality. Source: Mascolo (2012)

Figure 3 shows the example of a weightless network, where all the edges among all nodes have weight=1. Therefore, the distance between node A and node B is 1, between node A and node C is 2, between node A and node D is 3, and between node A and node E is 4. Therefore, the closeness centrality of node A will be:

$$C_c = \left[\frac{\sum_{j=1}^N d(A, j)}{N - 1} \right]^{-1} = \left[\frac{1 + 2 + 3 + 4}{5 - 1} \right]^{-1} = 0.4 \quad (e)$$

3. Betweenness Centrality

In a network, there is at least one shortest path between two nodes, and betweenness centrality measures the number of times that a node lies on the shortest path between other nodes. A node with high betweenness centrality is very important, since it has the power to control the information passing between others. In addition, these are the nodes that might disable the communications between other nodes if they are offline. The importance of knowing betweenness centrality is that we can have a better idea to further help protect the network from breaking into several disconnected subnetworks. The calculation of betweenness centrality is explained below:

$$C_B = \frac{C_B(i)}{[(n - 1)(n - 2)/2]} \quad (c)$$

where:

- [(n-1)(n-2)/2]: the number of pairs of edges except the node itself

Figure 4 shows an example of a betweenness centrality where each node has a number indicating the number of nodes that will get through it. For example, node C lies between node A and node D, node A and node E, node B and node D, and node B and node E; therefore, C has value=4. Node B lies between node A and node C, node A and node D, and node A and node E; therefore B's value=3. Node A does not connect any other pairs of nodes, so it has a value of 0. From this figure, we can see that C has the largest value, and therefore C is the most important node in this network.

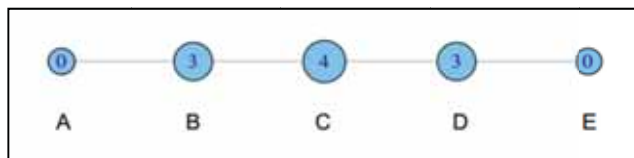


Figure 4. Example of Betweenness Centrality. Source: Mascolo (2012)

4. Data Analysis

In this section, we first presented our graphs using D3. When considering faculty collaboration, we treated each node as a professor, and each edge as the collaboration between two professors. The radius of a node represents as the total publications of a particular professor; therefore, a professor with more publications gets a larger radius. On the other hand, the width of the edge represents as the number of collaborations between two professors. The thicker the line is, the more collaborations between these two professors. In the rest of this section, we discussed and analyzed the following: 1) faculty collaboration; 2) research productivity; 3) publication strategies; and 4) evolution of faculty collaboration and research productivity.

4.1 Faculty Collaboration

4.1.1 Degree Centrality

Figure 5 shows the degree centrality of the faculty collaboration of MISU. In this figure, red colors correspond to the professors, blue colors correspond to the associate professors, orange colors correspond to the assistant professors, and light blue colors correspond to others. From this figure, we can observe that C86 was the most important node in the network, as this professor had high collaboration and research productivity with others. In addition, C86 had direct collaborations with six other professors, and these six professors had collaborated with five other professors, which formed a large sub-network in this figure. On the other hand, there were four disconnected sub-networks in this figure, which were: 1) the sub-network from C277, 2) the sub-network from C50, 3) the sub-network from C232, and 4) the sub-network from C41. The interesting fact was that C277, C50, C232, and C41 were all assistant professors. One possible reason might be that these professors were new to MISU, and therefore they had not yet established long-term collaborations with other MISU professors. In addition, C277, C50, and C232 had collaborated with their students or other professors outside from MISU. On the other hand, we noticed that C41 had not had any collaboration with anyone, and tended to publish papers independently; thus, it was hard to visualize this faculty member in this figure. Therefore, we can further

conclude that the two university programs and evaluation policy from MOE had influenced most of the faculty in MISU to publish co-authored papers.

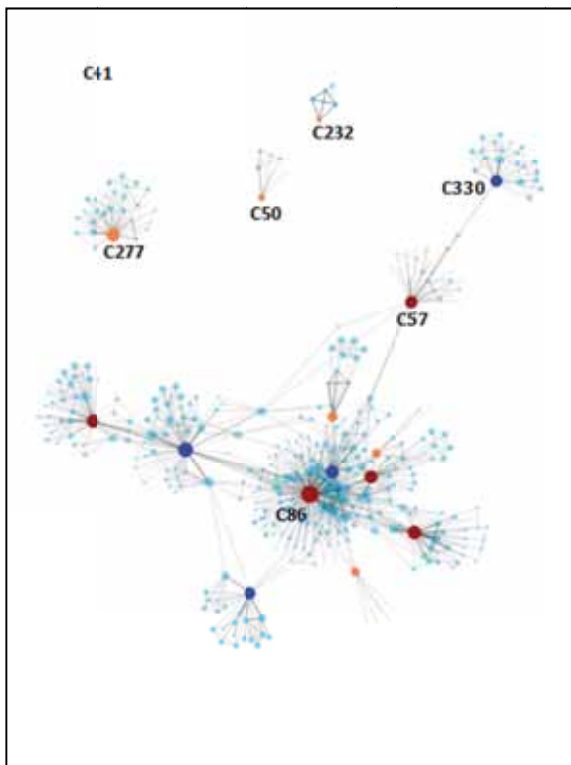


Figure 5. Degree Centrality of MISU

4.1.2 Betweenness Centrality

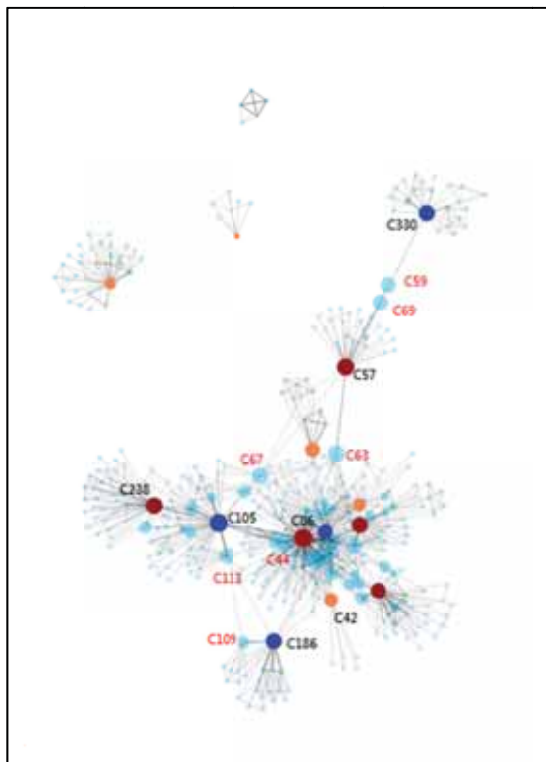


Figure 6. Betweenness Centrality of MISU

Figure 6 shows the betweenness centrality of MISU faculty. As we saw from this figure, almost all professors had important roles in this network. In addition, we noticed that some non-MISU professors (indicated in light

blue colors) acted as bridges to connect the MISU network. Moreover, we observed five important nodes in the network: 1) C59, because it was the only way to get to C330; 2) C69, because it was the only way to get to C59 and C330; 3) C57, because it was the only way to get to C69, C59, and C330; 4) C63, because it was the only way to get through C57, C69, C59, and C330; and 5) C105, because it was the only way to get to C238. Among these five important nodes, only two were MISU professors. This was an interesting since professors outside of MISU can still act as important nodes in the MISU network. Furthermore, C59, C69, C57, C63, and C105 all acted as important bridges in this MISU network, such that all communication from both C330 and C238 sub-networks would be disabled if they were gone.

Figure 7 shows the enlarged view of Figure 6, where we emphasized the surrounding of C86. First, we saw that C33 had a high productivity, and high collaboration with C86. In addition, we observed that C1 did not collaborate with C86 directly, but was connected with C86 via C33. Moreover, C42 did not have direct collaboration with C86, but was indirectly connected with C86 via C33. Therefore, we spotted that even though C33 was not a faculty member in MISU, it still played an important role in MISU. On the other hand, we noticed that C25 was another important node since it acted as an important bridge for C1, C205, and C63. Similarly, we observed that C18 was important since it was the bridge to connect C1 and C105, and C44 was important since it was the bridge connecting C42 and C105. We can conclude that even though there were few collaborations with other faculty outside of the country, these faculty still had important roles in MISU network.

4.1.2 Closeness Centrality

Figure 8 shows the closeness centrality of MISU. As we noticed from the figure, the central red node C86 has the highest closeness centrality, and therefore, it has been placed toward the center of the larger sub-network. Next, as we further observed from this figure, when a node was farther from the center of the network (e.g., C330, C42, C186, C136, C238, etc.), the radius got smaller (e.g. C330 has a smaller radius compared to C57). On the other hand, when a node was closer to the center of the network and had a larger radius (e.g. C86, C115, C205, C105, C1), it had a greater chance to influence or spread information in the network.

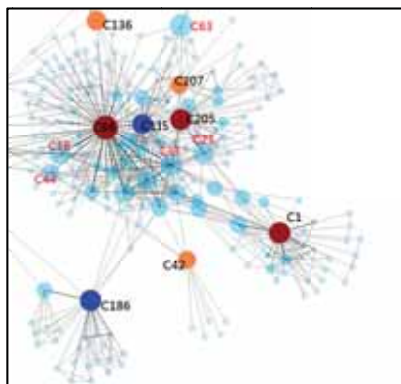


Figure 7. Enlarged View of Figure 6

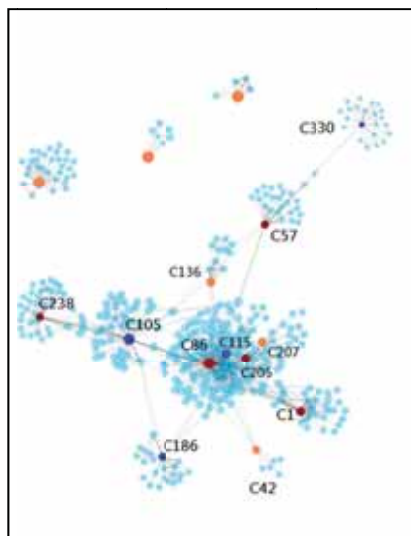


Figure 8. Closeness Centrality of MISU

4.1.4 Power-Law Degree Distribution of Faculty Collaboration

Figure 9 shows the power-law degree distribution of faculty collaboration. The x-axis shows the number of faculty collaborations, and the y-axis shows the frequency. As we noticed from the figure, the faculty collaboration followed the power-law degree distribution (Jeong et al., 2000, 2001), also called a scale-free network. In this figure, there were only a few faculty members that had high collaboration with others (e.g. more than 28 collaborations), and most of the faculty members had fewer than 10 collaborations with others.

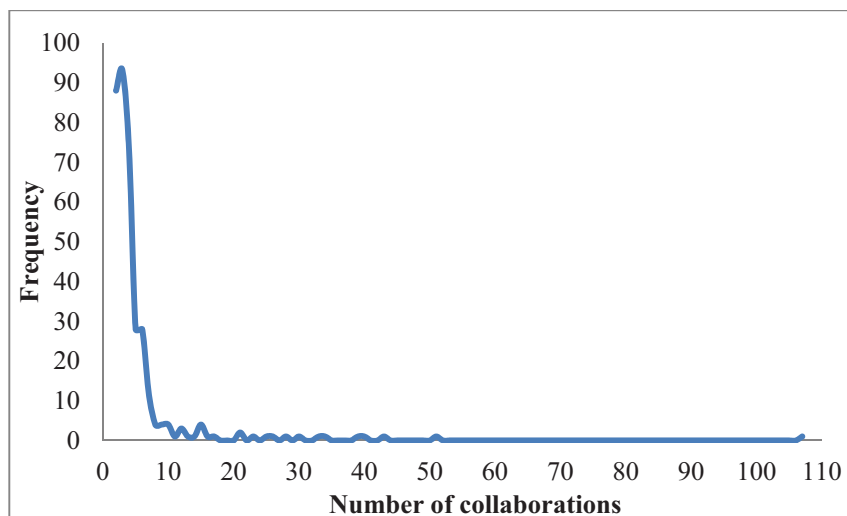


Figure 9. Power-Law of Faculty Collaboration

4.2 Research Productivity

Table 2. Rank of Contribution Score, Placement Score, and Rank Score

Rank	Placement Score	Rank Score	Contribution Score
1	C86	C86	C330
2	C330	C57	C57
3	C57	C330	C86
4	C1	C105	C1
5	C277	C1	C105
6	C238	C205	C205
7	C105	C238	C41
8	C115	C115	C238
9	C205	C41	C115
10	C232	C186	C50
11	C41	C50	C42
12	C50	C42	C232
13	C186	C232	C186
14	C42	C207	C207
15	C207	C277	C277
16	C136	C136	C136

Table 2 shows the place score, rank score, and contribution score for the 16 faculty members in the MISU network, as their calculations were all described in Section 3.3.1. In the placement score column, we noticed that C86 was ranked first (Placement=40.5833), C330 is second (Placement=31.0417), C57 is third (Placement=21.6667), C1 is fourth (Placement=15.0833) and C277 is fifth (Placement=14.2917). In addition, as noticed that from these calculation, C86, C330, and C57 were all MISU professors, and they were the first author in most of their publications. On the other hand, C1 and C277 had slightly lower values than C86, C330, and C57, and this might be due to the fact that most of their work was attributed to them as second or third author.

In the rank score column, we can see that the first professor, with the highest score, is C86 (Rank=117), followed by C57 (Rank=99), C330 (Rank=86), C105 (Rank=72), and C33 (Rank=68). Besides C33, the other four were MISU professors. Comparing both placement score and rank column, we observed that C57 was in second place in rank score, but third in placement score. This indicated that C57 was not the first author of some of his/her

work, yet these works were published in the top quartiles in the journal category (Q1/Q2 journal). Nonetheless, C86, C57, and C330 still remain the top three in both placement score and rank score, and therefore, these told us that the publications of these three professors are all of high quality and quantity.

The contribution-score column shows the top ten professors as follows: 1) C330, 2) C57, 3) C86, 4) C1, 5) C105, 6) C205, 7) C41, 8) C238, 9) C115, and 10) C50. Except for C33, all were MISU faculty. In Table 2, we spotted that C86, C330, and C57 reside in the top three ranks among these three categories. In addition, we noticed that C86 often submitted work in the Journal of Information Management, Decision Support Systems, and Information & Management; C330 often published in International Journal of Neural Systems and Clinical EEG and Neuroscience; C57 often published work in Decision Support Systems and Information & Management.

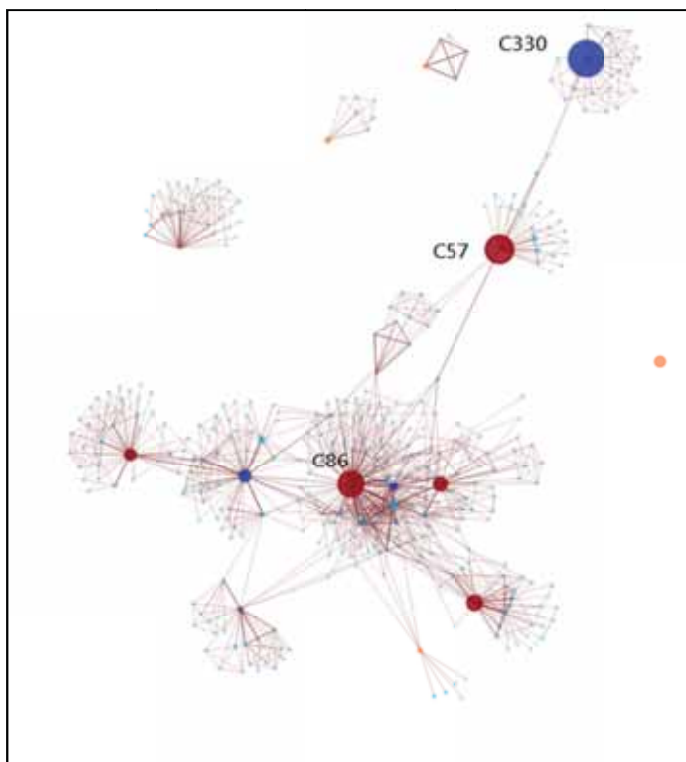


Figure 10. Contribution Score of MISU

Figure 10 shows the contribution scores of the MISU network. Comparing this figure with Figure 5, we noticed that C330, C57, and C86 were all significantly higher in Figure 10, when considering the contribution score rather than the total number of publications. This confirmed that the two university programs and evaluation policy from MOE had influenced faculty not only to focus on publishing "high-quantity" papers, but also to publish "high-quality" papers, as C330, C57, and C86 were notable examples.

4.3 Publication Strategies

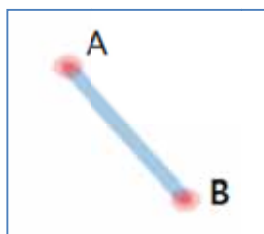


Figure 11. Example of Journal A and Journal B Submission Pattern

In this section, we analyzed the journal titles in Information Science & Library Science category from the recommended journal list from both MOST (Liang, 2013; see Appendix 1) and MISU's promotion-recommended journal list (see Appendix 2). When considering the journal publication patterns, we treated each node as a journal, and each edge between two nodes as the number of times that a professor had publications in both journals. If there is a thicker edge between two nodes, that means there were several

professors that had published their work in both journals. The radius of a node represents the total publications of a particular journal; therefore, if several professors published in a particular journal, it would get a larger radius. For example, Figure 11 means that there were several professors that had previously published their work in both Journal A and Journal B. In addition, we can see that most people tended to publish their work in Journal B, as Journal B has larger radius compared to Journal A.

4.3.1 Observations of Overall Journal Publication

There were total of 378 papers published in 189 different journals in MISU. Due to space constraints, we only show the top 13 published journal titles in MISU in Table 3. As we can observe from this table, the top five publishing journals were: 1) 28 papers (7.4%) of papers published in the International Journal of Information Management (IJIM); 2) 19 papers (5%) of papers published in Decision Support Systems (DSS); 3) 14 papers (3.7%) published in Expert Systems with Applications (ESA); 4) 10 papers (2.6%) published in Telematics and Informatics (TAI); 5) 9 papers (2.4%) published in Journal of Medical Systems (JMS), 9 papers (2.4%) published in Information & Management (IM), and 9 papers (2.4%) published in Clinical EEG & Neuroscience (CEN).

Table 3. Top 13 published journal titles in MISU

Rank	Acronyms	Journal Title	Count
1	JIM	Journal of Information Management	28
2	DSS	Decision Support Systems	19
3	ESA	Expert Systems with Applications	14
4	TAI	Telematics and Informatics	10
5	JMS	Journal of Medical Systems	9
5	IM	Information & Management	9
5	CEN	Clinical EEG and Neuroscience	9
8	OIR	Online Information Review	7
9	ECRA	Electronic Commerce Research and Applications	6
9	IJIM	International Journal of Information Management	6
9	CHB	Computers in Human Behavior	6
12	JGIM	Journal of Global Information Management	5
12	IJNS	International Journal of Neural Systems	5

4.3.2 Observations of Overall Publications from MOST and A Lists

There were total of 55 different journal titles from both the MOST and A-lists. Among these 55 different journal titles, MISU faculty published a total of 73 papers (19.3%) in 17 different journals, all of which are shown with publication counts in Table 4. The top five published journals were: 1) 19 papers (26%) published in Decision Support Systems (DSS); 2) 10 (13.7%) papers published in Telematics and Informatics (TAI); 3) 9 papers (12.3%) published in Information & Management (IM); 4) 6 papers (8.2%) published in International Journal of Information Management (IJIM), and 6 papers (8.2%) published in Electronic Commerce Research and Applications (ECRA). Based on the statistics results shown in this table, we concluded that the publication strategies of MIS faculty were highly related with the MOST and A-lists.

Table 4. All 17 published journals in MOST and A-list

Rank	Acronyms	Journal Title	Count
1	DSS	Decision Support Systems	19
2	TAI	Telematics and Informatics	10
3	IM	Information & Management	9
4	IJIM	International Journal of Information Management	6
4	ECRA	Electronic Commerce Research and Applications	6
6	JGIM	Journal of Global Information Management	5
7	IJHCS	International Journal of Human-Computer Studies	3
8	IJEC	International Journal of Electronic Commerce	2
8	JASICT	Journal of the American Society for Info Science and Tech	2
8	JSS	Journal of Systems and Software	2
8	IS	Information Systems	2

16	ITP	Information Technology and People	2
12	CAIS	Communications of the AIS	1
12	ITM	Information Technology and Management	1
12	EM	Electronic Markets	1
16	DAIS	The Data Base for Advances in Information Systems	1
12	JDM	Journal of Database Management	1

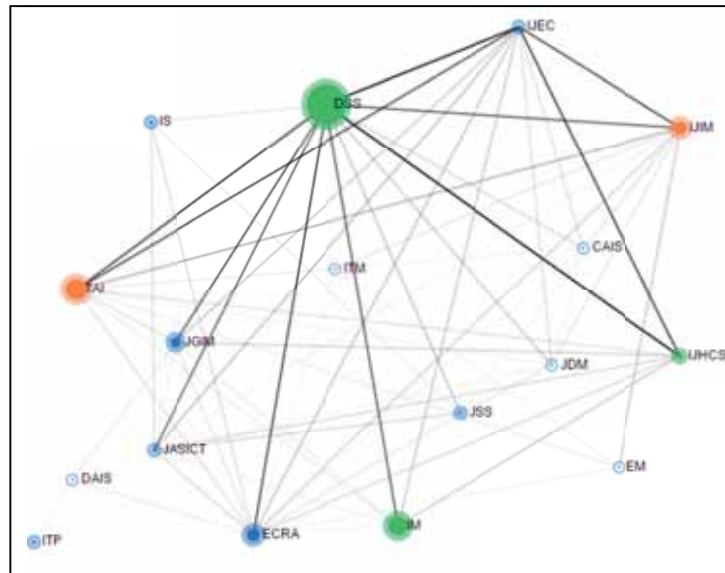


Figure 12. Overall journal publication of MISU

Figure 12 shows the overall journal publications of MISU. The blue color indicates the journal titles recommended from the MOST list, the orange color indicates the journal titles recommended from the A-list, and green color indicates the journal titles from both MOST and A-lists. In this figure, we noticed that DSS, IM, and IJHCS were in both MOST and A-lists. Next, we saw that DSS, TAI, IM, IJIM, ECRA, and JGIM all had radii larger than others, meaning that more people tended to publish their work in these journals. In addition, we saw that there were thicker edges between DSS and IJEC, DSS and IJIM, DSS and IJHCS, DSS and IM, DSS and ECRA, DSS and JASICT, DSS and JGIM, and DSS and TAI, which means there were several faculty members who published their work in DSS and also published their work in IJEC, IJIM, IJHCS, IM, ECRA, JASICT, JGIM, and TAI. Similarly, there were some thicker lines between IJEC and DSS, IJCS and TAI, IJEC and IJHCS, IJEC and IJIM, which means there were several faculty members who published their works in IJEC and also published their work in DSS, TAI, IJHCS, and IJIM. Likewise, there were some thicker lines between IJIM and IJEC, IJIM and DSS, and IJIM and TAI, where it means that there were several faculty members who published their works in IJIM and also published their works at IJEC, DSS, and TAI. Therefore, based on these observations, we can conclude that the following journals were closely related: DSS, IJEC, IJIM, IJHCS, IM, ECRA, JASICT, JGIM, and TAI.

4.4 Evolution of Faculty Collaboration and Research Productivity



Figure 13. Collaboration & productivity 1992 – 1995



Figure 14. Collaboration & productivity 1996 – 1998



Figure 15. Collaboration & productivity 1999 – 2001



Figure 16. Collaboration & productivity 2002 – 2004

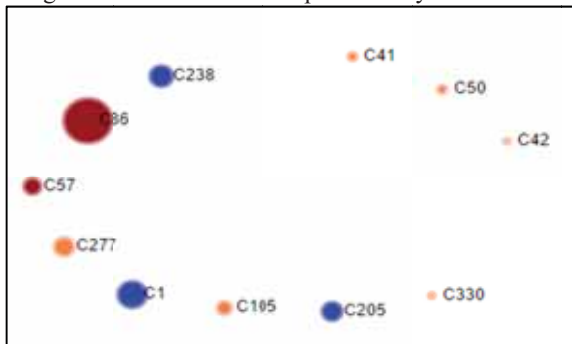


Figure 17. Collaboration & productivity 2005 – 2007

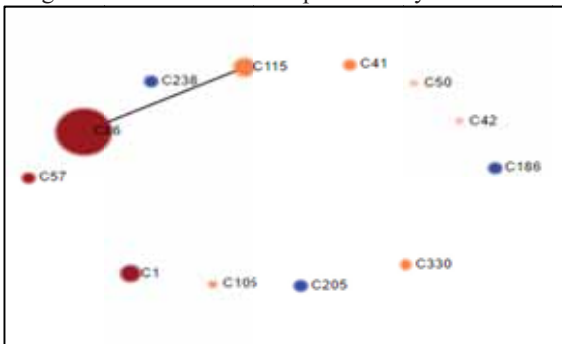


Figure 18. Collaboration & productivity 2008 – 2010

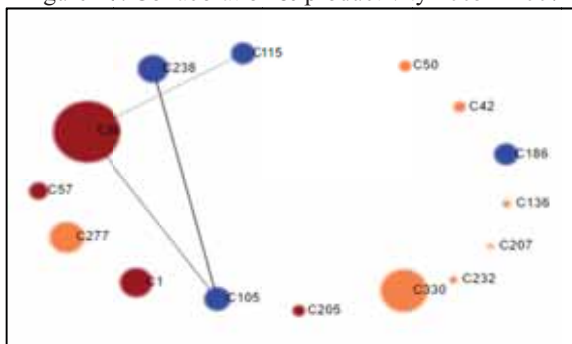


Figure 19. Collaboration & productivity 2010 – 2013

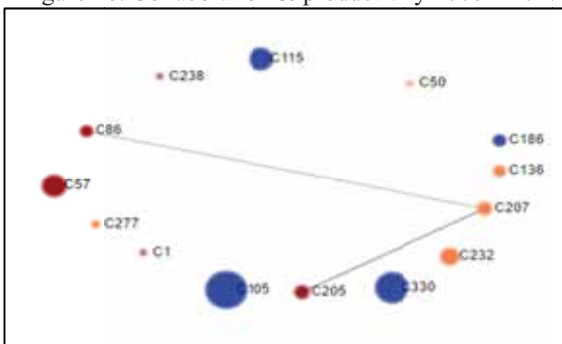


Figure 20. Collaboration & productivity 2014 – 2016

Figure 13-20 show the evolution of MISU faculty collaboration and productivity from 1992 to 2016, where each figure represents the faculty collaboration and productivity in every three years. The red color indicates the professors, the blue color indicates the associate professors, and the orange color indicates assistant professors. The lines represented the collaboration between faculty members, as the thicker lines mean more collaboration between two professors. On the other hand, the width of the node presents the total count of publications by a faculty member, with a bigger node indicating more publications. From these figures, we observed the following facts:

- 1) The journal publication have tended to increase over time.
- 2) The professor who was about to promote from assistant professor to associate professor, or from associate professor to professor, would have a significant increment on his/her publications.
- 3) Some professors had slightly decreased his/her publication after he/she had successfully promoted to professor.
- 4) The MOE introduced two university programs and an evaluation policy had influenced the MIS faculty to change their productivity and publication strategies since 2005, such as most professors had continued to increase their publications over time, and had more collaboration after 2005.
- 5) Some faculty might change their collaboration patterns with respect to their academic position.
- 6) Assistant and associate professors tend to place more emphasis on publishing both "quantity" and "quality" papers for faculty advancement, while professors tended to emphasize only publishing more "quality" papers.

Figure 21 shows the overall faculty collaboration and productivity in MISU from 1992 to 2016. The width of a node represents the total publications of a faculty member, and the width of a line between two nodes represents the total publications between two faculty members. From this figure, we noticed the following:

- 1) Professors and associate professors tend to have most publications and collaborations.
- 2) Some professors had indirect collaborations with other professors (e.g., C86 had indirect collaboration with C238 and C205, because C86 had collaborations with C105, and C105 had collaborations with C238; similarly, C86 had collaborations with C207, and C207 had collaborations with C205).
- 3) Not all senior faculty would collaborate with other junior faculty, as some senior faculty prefer to conduct research alone.

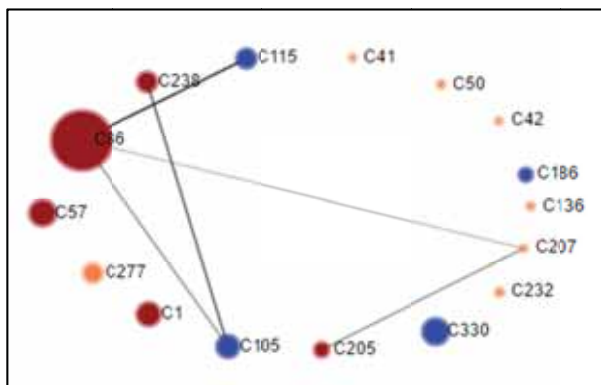


Figure 21. Overall faculty collaboration and productivity from 1992 to 2016

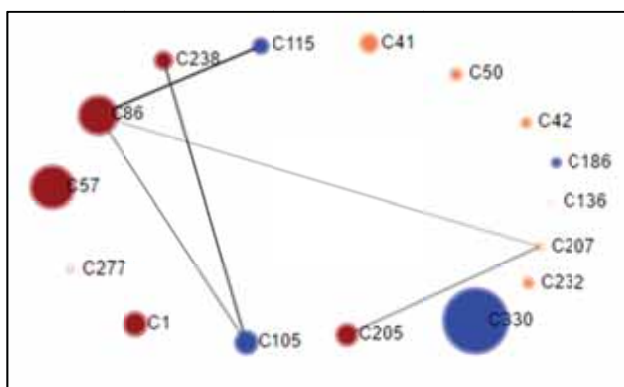


Figure 22. Overall faculty collaboration and productivity using EWMA from 1992 to 2016

Figure 22 shows the overall faculty collaboration and productivity from 1992 to 2016 using EWMA. The width of a node represents the overall contribution score of a faculty member using EWMA, and the width of a line between two nodes represents the collaboration between two faculty members using EWMA, as the EWMA calculation was described in Section 3.3.2. From this figure, we noticed the following:

- 1) Comparing to Figure 21, we observed that the width of some professors were significantly increased in Figure 22, and the reason was due to that these professors tended to publish journals in very high rank as first author in recent years, or vice versa. Other professors had about the same width between these two figures indicate that they were all consistently using same publication strategies from time to time.
- 2) Comparing to Figure 21, we noticed that the width of some professors were greatly increased in Figure 22, and the reason was because these professors published more papers in recent periods, or vice versa. Other professors had about the same width between these two figures means that they were all consistently publishing articles from time to time.

5. Discussions & Conclusions

Research productivity has been always an important part of a faculty member’s job description, since it has a great effect on faculty promotion and tenure decisions. In addition, some scholars believe that co-authorship between faculty members has a great impact on their academic life and faculty advancement. Since 2005, the MOE has developed two university programs and an evaluation policy to improve the competitiveness and

internationalization of Taiwan universities, and has clearly stated the strong relationship between faculty promotion and research performance. Since then, MOST and some universities have developed recommended journal lists to help their faculty members get more research funding. Even though several papers have addressed research productivity or co-authorship, none of them has used social network analysis (SNA) to examine research productivity and co-authorship under two university programs and the evaluation policy from the MOE in Taiwan. Therefore, in this study, we first used SNA to analyze the research productivity, collaboration patterns, and publication strategies from a Management Information Systems (MIS) department at a national university in Taiwan. Then, we used D3 to visualize and discuss how these two university programs and the evaluation policy from the MOE affected these patterns and strategies. We hope that our study not only provides beneficial information to the MIS department, but can be treated as an important source for MOE committees in their future adjustment of university programs and evaluation policies.

We analyzed and visualized the following four areas using D3: 1) faculty collaboration; 2) faculty productivity; 3) journal publication pattern; 4) evolution of faculty collaboration and productivity. First, when we drew the degree of centrality of MISU, we discovered that except for a few assistant professors, most of MISU professor had direct or indirect collaboration with other MISU professors. In other words, we can confirm that the two university programs and evaluation policy from MOE affected most MIS faculty to tend to publish co-authored papers. Second, we had demonstrated important professors who acted as an “important bridge” in this MISU network via betweenness centrality of MISU, and noticed that not all of the professors acting as an “important bridge” were actually from MISU network. Third, when we analyzed the closeness centrality of MISU, we observed that there were the MISU professors who had greater radii were placed more toward to the center of the MISU network, and this indicated that these professors had a greater chance to influence others in the network. Fourth, we discovered that faculty collaboration follows power-law degree distribution. Fifth, we noticed that most of the faculty tended to collaborate with other professors within the same country. Lastly, we noticed that even though MISU faculty only collaborated with a few professors from other countries, these professors from other countries still played important roles in the MISU network.

Next, we analyzed MISU faculty productivity, and observed that professors with high contribution scores have the following characteristics: 1) they tended to publish their papers as first author; 2) they tended to publish high quantities of papers per year; and 3) they tended to publish their papers in the high-ranked journals.

When considering faculty publication patterns, we analyzed total of 378 papers from 189 different journals, and noticed the majority of the journal papers were published in International Journal of Information Management, Decision Support Systems, Expert Systems with Applications, Telematics and Informatics, Journal of Medical Systems, Information & Management, and Clinical EEG & Neuroscience. Among these popular journals, we discovered that International Journal of Information Management, Decision Support Systems, Telematics and Informatics, Information & Management were the recommended journals from either MOST or A-lists. Therefore, we can conclude that MISU faculty publication strategies were closely related to the MOST and A-lists.

Moreover, we presented the evolution of MISU faculty collaboration and productivity from 1992 to 2016, and noticed the following: 1) most of the MISU professors had continuously published articles from time to time; 2) associate professors and assistant professors tend to focus on publishing high “quantity” and “quality” papers in order to get ready for their promotions, while professors tend to place more emphasis on only publishing “high quality” papers; 3) journal publications have tended to increase over time; 4) when a professor was prepared to promote from assistant professor to associate professor, or to promote from associate professor to professor, he/she had would have a significant increment on his/her publications at that time; 5) some professors had slightly decreased his/her publication after he/she had successfully promoted to professor; 6) The MOE introduced two university programs and an evaluation policy had influenced the MIS faculty to change their productivity and publication strategies, such as majority of professors had continued to increase their publications and collaboration since 2005; 7) the faculty might change their collaboration patterns with respect to their academic position.

Furthermore, we evaluated the overall evolution of faculty collaboration and productivity in MISU from 1992 to 2016, and noticed that: 1) professors and associate professors tend to have most publications and collaborations; 2) some professors had indirect collaboration with other professors; 3) not all senior faculty would collaborate with other junior faculty. We further analyzed overall faculty collaboration and research productivity from 1992 to 2016 using EWMA, and discovered that: 1) the width of some professors were significantly increased in Figure 22 because these professors tended to publish journals in very high rank as first author in recent years, or vice versa; 2) the width of some professors were greatly increased in Figure 22 because these professors tended

to publish more papers in more recent periods but not earlier periods, or vice versa.

6. Limitations and Future Research

Even though the research has reached its aims, there were still some limitations in this study. Some of the main limitations to be noted:

- We only analyzed the patterns of faculty collaboration and research productivity in an MIS Department at a national university in Taiwan.
- The data drawn from the MOST website were all manually entered by each faculty member, and therefore, there might have been some missing data (e.g., Professor A published Article 1 and Article 2, but only listed Article 1).
- The data drawn from the MOST website were all manually entered by each faculty member, and therefore, there might have been some mistyped data preventing the identification of faculty collaboration (e.g., Professor A published Article 1 with Professor B, but mistyped Professor B's name, and Professor B's records were unavailable from the MOST website).
- We only analyzed faculty collaboration and research productivity based on the journal titles that belong to: 1) Science Citation Index (SCI), 2) Science Citation Index Expanded (SCIE), 3) Social Science Citation Index (SSCI), and 4) Taiwan Social Science Citation Index (TSSCI).
- All of the registered faculty members from the MOST website had both Chinese and corresponding English names. However, some co-authors (e.g. the faculty or PhD students who did not have MOST accounts) might not have included corresponding English names; for this reason, we referred to the ScienceDirect website to retrieve missing English names.

In the future, we plan to conduct an even bigger analysis, collecting all of the publication data among all MIS departments from all the universities in Taiwan. After having all the data processed, we plan to use SNA to visualize and discuss how the two university programs and the evaluation policy from the MOE affect faculty collaboration, research productivity, and publication strategies across all the MIS departments in Taiwan.

Acknowledgments

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Appendix 1.

Recommended journal list from Information Science & Library Science category of Ministry of Science and Technology of Taiwan (MOST).

Management of Information Science Journal Ranking List

Rank	Journal Title
1	MIS Quarterly
2	Information Systems Research
3	Journal of Management Information Systems
4	Journal of the AIS
5	Decision Sciences
6	Decision Support Systems
7	Information and Management
8	European Journal of Information Systems
9	Human-Computer Interaction
10	Information System Journal
11	Journal of Strategic Information Systems
12	International Journal of Electronic Commerce
13	International Journal of Human-Computer Studies
14	Journal of Information Technology
15	Communications of AIS
16	Information System Frontier
17	The Data Base for Advances in Information Systems
18	Journal of Global Information Management
19	Information & Organization
20	Journal of Organizational Computing and Electronic Commerce
21	Information Technology and People
22	Information Technology and Management
23	The Information Society
24	Journal of Global Information Technology Management
25	Electronic Markets
26	Information Resources Management Journal
27	Journal of Information Technology Theory and Application
28	Electronic Commerce Research and Applications
29	Information Systems Management
30	Journal of Organizational and End User Computing

Information Technology-Oriented Journal Ranking List

Rank	Journal Title
1	IEEE Transactions on Knowledge and Data Engineering
2	IEEE Transactions on Software Engineering
3	Artificial Intelligence
4	IEEE Transactions on System, Man, and Cybernetics
5	IEEE Transactions on Computers
6	ACM Transactions on Information Systems
7	ACM Transactions on Database Systems
8	INFORMS Journal on Computing
9	Information Systems
10	Journal of Database Management
11	Information Processing and Management
12	IEEE-ACM Transactions on Networking
13	Journal of Systems and Software
14	Journal of the American Society for Information Science and Technology
15	Computer Journal

Appendix 2.

Recommended journal list from MISU for faculty promotion purposes (Sorted alphabetically)

No.	Journal Title
1	ACM Computing Surveys
2	ACM Transactions on Computer-Human Interaction
3	ACM Transactions on Database Systems
4	ACM Transactions on Information Systems
5	ACM Transactions on Modeling & Computer Simulation
6	ACM Transactions on Software Engineering and Methodology
7	Communications of the ACM
8	Decision Sciences
9	Decision Support Systems
10	European Journal of Operational Research
11	IEEE Transactions on Software Engineering
12	IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans; Part B: Cybernetics
13	Information & Management
14	Information Systems Research
15	International Journal of Information Management
16	International Journal of Human-Computer Studies
17	Journal of Management Information Systems
18	Journal of Organizational Computing & Electronic Commerce
19	Management Science
20	MIS Quarterly
21	Telematics and Informatics

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A Traditional Communication of Bugis (Note 1) in the South Sulawesi of Indonesia through the Art Performance of Kecapi

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1. Introduction

Discussing about traditional communication, it is commonly connected to the tradition concept, which contains a meaning that the concept is a kind of the past finding, but it is commonly reputed as a normative thing by each part of the society. Based on the explanation, it can be concluded that the definition of traditional communication is commonly connected to the folk art performance as a traditional media that is owned by a certain society, as the result it can be identified and understood that a folk art performance is owned by that society and exist as a local wisdom for the society.

Therefore, it can be cleared that discussing about traditional communication is cannot be separated with the traditional folk art performance as a media, a kind of art that is based on the folk story by using media that appears and develops in a certain society. The effort of source finding of this folk story is not only purposed to be performed in the form of art performance, but also it is further expected to carry out messages from the story. Therefore, in the review of traditional communication it is emphasized to the way of carrying the messages that are contained in an art performance as a media. Therefore, this review is not discussed about the art performance furtherly. It means that the performance can use a great and luxurious background, but also can be in a simple form.

South Sulawesi as a former government of the Indonesian Archipelago (the government of Gowa-Tallo and other governments that had been exist in Indonesia) has various kinds of art performance of the traditional media which are still heired for generations, where the function of traditional media is not only as an entertaining public show, but also may be a guidance because of the role of art performance which is full of messages and senses.

Therefore, people who will have an art performance are commonly have to prepare their physic, mental, and psychology, moreover in fact that they will face most of audiences and have an *all night* (Note 2) performance. So that, in the South Sulawesi, may be in other places, before playing the role as a persistent player in an art performance, the players are commonly practice hard their skill and ability. This ability is usually completed by a mystical thinking through the magic words or *Parimbolo* (Bugis' language). In order to learn the magic words, the players commonly meet the elders, but the magic words are not directly given, but rather have to pass some rituals within certain rules such as white cloth, a cock, or by preparing black sticky rice and black cock (Ajeip Padindang in Monoharto, 2003: ix-x).

2. The Meaning and Function of Kecapi in the Comunication Process of Bugis Community

One of buginese figure who cares about the art performance of *Kecapi* is Mr. H. Ma'ruf Saleh, 66 years old, he works as a society elder and the owner of the traditional media community of art performance of *Kecapi* who lives in Rappang, Sidrap regency. Eventhough he leads and owns the *Kecapi* performance community, but he is occasionally play it, particularly if there are invitations of the famous people in the South Sulawesi or if there are children and youngsters as individual or group who have high desire to play *Kecapi* so he will teach them with his pleasure.

Mr. H. Ma'ruf Saleh said that it is difficult enough to explain the history of when *Kecapi* is firstly performed, definitely it had been existed since the period of *Tomanaurung* and the former kings. The *Kecapi* players are usually invited to the palace in order to entertain the king and his family. Likewise, it is performed to support the government armies before leave to war and after come from there. While, in the ordinary society, *Kecapi* is also

very popular. It is played by the farmers while looking after their plants on the farm, and also played by the herdsmen while looking after their browsing livestock such as cow or buffalo. In the past, *Kecapi* is heard almost in the entire village, in the people houses, farms, fields, even under the dense trees where the herdsmen take a rest while playing the *Kecapi*. It means that at that time *Kecapi* is played by the people to enjoy themselves.

In the beginning, *Kecapi* is only played as an instrument in order to entertain people by the players' amusing motion and action, then it develops become a performance that integrates the sound of *Kecapi* along with the rhyme in the form of long story about heroism, values educating, moral educating, magnificence and religion, criticism and social control even life philosophy. Eventhough the performance of *Kecapi* is occasionally start from 9 p.m. until dawn, but the listeners are not bored. It is caused by an unsatisfied feeling when the people watch an unfinished *Kecapi* performance.

In the period of colonization of Dutch or Japan, *Kecapi* is used as a joint entertaining media between the colonial with the indigene, but it is played in group and performs together with other instruments such as *Kendang*, flute, along with singer and dancer which are called as *Biduan*. Most of the *Biduan* are transsexual people or called as *Waria* (read: man which has personality as woman). Because the main purpose is to entertain the colonial armies. Why *Waria* which is performed, because at that period if woman who is performed, those colonial armies, both Dutch or Japan, will force her to get in touch intimately.

The next development, *Kecapi* is started to be contested both individual or group, even nowadays the *Kecapi* performance is started to be commercialized. The *Pakkacapi* (Note 3) CD and DVD are mostly sold in the cassette shops, however the weakness is that it does not has a clear rule about who is the producer, how the income sharing system between the producer and player, and who will control the selling system. It means that the contract is not clear. Nowadays, people who have a party are usually rent *pakkacapi* for entertaining and enlivening that party within the agreed payment. By this condition, it can be concluded that *Kecapi* have been a folk entertaining media as professionally, so it can become a livelihood.

Mr. H. Ma'ruf Saleh also explains that in the formal programs, when *pakkacapi* is performed, the people have to wear the Buginese costume such as traditional costume, head fastener (read: *Pasapu*), and the Buginese silk sarong. Besides if there is invitation from the political party, the *Kecapi* players will adjust with that party uniform color, as an example if the *Kecapi* players are invited by the Party of Golkar, they will wear the yellow costume and sarong, while if they are invited by PDIP, so the costume and sarong must be red, thus the *Kecapi* players will adjust as the request of the invitor even it is not from a political party.

Thus, the traditional attributes in every place are commonly different, for example is the head fastener. In a discussion that is held in *Sidrap*, it is decided that the head fastener is become a Buginese symbol, it is *Songkok To Bone*², but when they perform in another place, they get a warning from the elders of that place, because they assume that *Songkok To Bone* (Note 4) is only wore by the Buginese noble. Based on that case, it seems that there is a perception differentiate about the attributes or symbols that are used between the players with the audiences that is represented by the elders. It can be seen as a further development of the traditional media existence in the form of art performance of *Kecapi* in Bugis.

Occasionally, Mr. Ma'ruf Saleh is apprehensive about the way of thinking of the young generation nowadays, he explains that since the modern media such as movie, television, CD and DVD are easily spread to the entire of the village, most of the young generations are shame and awkward to play *Kecapi*, it is reputed as an old-fashioned thing. When in the past two person or more will play *Kecapi*, now they are prefer to play guitar, because it is seen as a modern one. The impact of this condition will be seen explicitly toward the way of thinking of the young citizens. This kind of tendency will be a certain defiance for Mr. Ma'ruf and his community, although it will be difficult however the early condition must be returned even it is cannot perfectly returned. However, there must be an effort to realize that aim.

Based on the research that has done by the writer, it seems that there is a concrete effort by Mr. Ma'ruf and his community to develop the studio, where young generatios are involved, moreover when there is a champion or competition so the participants are mostly the teenagers, it seems that they start to have desire in playing *Kecapi*. Moreover, they will get a payment if they are able to perform in the public ceremony or party

Meanwhile, about the government action, Mr. Ma'ruf Saleh explains that it is depend on the regent. Occasionally, there is a regent who gives a serious attention toward the art performance of *Kecapi*, in the other side there is a regent who does not give any attention. When the regent gives an attention, the art performance of *Kecapi* will be popular, besides there are many of competitions, it will be involved in the local curriculum, moreover the government will set an estimation cost for providing, preservating, and founding. In the other way,

if the regent is not interest to it, as the result is the art performance of *Kecapi* is become 'slack'. *Kecapi* will be only played by a certain art community or its own society.

Furthermore, Mr. Ma'ruf explains that nowadays the government still has an attention, even it is limited to the cost estimation for giving a trainee for the teachers and they are expected to be able to teach the students. Meanwhile, the *Kecapi* players group always do a hard effort in order to balance the modern media by keep their consistence toward the art performance of *Kecapi*. Eventhough there is low estimation cost, but they always make a serious effort in order to make the traditional media of *Kecapi* is always exist.

An explanation that is related to the art performance of traditional media of *Kecapi* is also defined by Mr. Sabri Nangka, 37 years old, he works as a farmer and a famous *Kecapi* player in the South Sulawesi, moreover his recording in the form of CD and DVD are spread around the Center Sulawesi, Borneo and Java. After winning a championship (1st rank) or *Kecapi* competition which is held in Pinrang regency, there are producers who offer for recording because of his skills in playing *Kecapi*. He is able to cover and play some songs from the famous singers such as H. Rhoma Irama (Indonesian King of Dangdut). Therefore, in the South Sulawesi especially in the some place of Buginese, most of cassette shop and people houses have his CD or DVD .

Mr. Sabri, his nickname, explains that he cannot remember the exactly time he plays *Kecapi*, definitely he was a child. He also cannot explain that children who plays *Kecapi*, when he was a child, are purpose to preserve it or not, because his village is located on the edge of mountain so there is no entertainment, no one have television and only a few who have radio, therefore the people usually play *Kecapi* or bamboo flute while looking after the farm or livestock. The people usually create the instrument by themselves.

The stories that are sung are verbal stories that are heard from the elders who also play *Kecapi*, so its characteristic is a verbal story which is heard verbally then imitated by the generations. Therefore, most of the *Kecapi* players are able to memorize the rhyme of the former *Kecapi* players, based on the history, the heroism of Kahar Muzakkar, love story of the kings, also an advice for the children, teenagers, women, parents, even a story that is aimed to motivate children to study hard, it means that in playing *Kecapi* the educational substance is also noticed.

Mr. Sabri expects to preserves the art performance of *Kecapi* in Bugis, therefore he says that he will always play *Kecapi*, moreover it has been the part of his life, even he is still farming but *Kecapi* is his priority. In order to preserve the performance of *Kecapi*, he exercises the teenagers in his village. Commonly the exercise is done in the patrol post in the night, he invites the teenagers then practice to play *Kecapi* together, and it will be seen teenagers who have a natural talent. It is a needed basic to be famous player, so they are able to play professionally in the art performance of *Kecapi*. It is expected that one day the art performance of *Kecapi* can be everlasting and heired for the next generations. In order to preserve the *Kecapi* playing, it cannot be done only by Mr. Sabri as a player, but it will be better if the government, private company, or other cultural observers give a serious attention. Because they are duly participate in preserving the art performace of *Kecapi*.

Related to the reaction of the young generation, Mr. Sabri explains that event many young generations who do not interest in playing *Kecapi*, he believes that the performance of *Kecapi* in Bugis will always develop, it is based on the fact that everywhere he performs *Kecapi*, the audiences are seemed to be enthusiastic on it, and basicly many villagers' children who still play *Kecapi* as their entertaining media, therefore according to him, the most important thing is how every part of the society has an awareness to train the children who have a desire in playing it. Furthermore, Mr. Sabri states that playing *Kecapi* is owned by the society, it means that originally it is sourced from the society, so that it plays in every people party or ceremony.

Since participating in the *Kecapi* championship or competition, Mr. Sabri begins to be popular in public as the result he accepts many invitations, even occassionally he cannot fulfill all of them. Thus, some of cassette producers interest to record his performances then commercialize it. Some recording have been taken, but Mr. Sabri realizes that some of them have unclear contracts, as the result he receives a payment only when take the record, then he does not receive any payment from the CD or DVD selling (Note 5).

Mr. Sabri is not only invited by the people in the South Sulawesi, but also Palu and Borneo. The inviters are the Bugineses who live there. They state that Mr. Sabri expects to introduce the Buginese culture, because it is a special pride for a villager who only can play *Kecapi*. Moreover, in the moment of general election, there are political parties who invites the *Kecapi* players for giving entertainment to public. They are sure that campaign by using traditional media of *Kecapi*, especially in the villages, it will be able to influence the constituents.

The main constraint that is felt by Mr. Sabri as a *Kecapi* player is the less attention from the various sides, there is unserious effort to develop the contain that will be performed, it means that the matter is still the same as the

past. For example if he performs a historical story, it is begun from the same character, place, even plot, eventhough the sense of humor that is performed by the players is able to keep the audience enjoy the performance, but it is still have the same elements. Mr. Sabri expects that there will be some helps in creating a readable script to be performed in the form of story rhyme, so the audiences are able to get new information or message. If it can be realized, he expects that the script is appropriate with the nowadays condition.

The writer also finds another informant about traditional media performance of *Kecapi* in Bugis. He is Mr. H. M. Yunus Nur, 53 years old, who lives in Pinrang, South Sulawesi. Besides as an inhabitant, he also works as the owner and manager of *Simpang Pinrang* Radio, a private radio which is built by himself. He confesses that he loves the art performance which can be categorized as a traditional media, especially *Kecapi*. Because of his amorousness toward the art performance of *Kecapi*, he establishes a special night program about Buginese *Kecapi* on his radio. Discussing about the beginning of his anxiety to play it, He explains that he has been interested on it since he was a child, he saw almost every *Kecapi* performances. His anxiety becomes stronger during his teenager, therefore he always see the *Kecapi* performance which is held in the field, building, even listen radio. Because of his job is about media, so he creates a night program that is named *pakkacaping* by inviting the *Kecapi* player directly or playing cassette.

The main reason of his anxiety in playing *Kecapi* is its legend that is rhyme verbally by the players and varied by fresh humor so it can entertain the listener give knowledges about historical values, honesty, justness, bravery, and reverence toward human, nature even God. Moreover, there are *Kecapi* players who are able to deliver the messages through the story that are related to Islam.

Mr. Yunus explains that beside playing it, there are art performances that are can be categorized as traditional media in Bugis such as *Elong Pelong* (Buginese songs), one of effective traditional media in order to share thought and feeling of the player or listener. Therefore, Buginese people use *Elong Pelong* as a media to teach children about values. In the other side, there is also a traditional media that is used as a media for solving the society's problems, it is called *Tudang Sipulung*. Meanwhile, the people is still use *Kentungan* for announcing certain informations such as fire, flood, death, or the sign to gather the people on the field.

Another Buginese traditional media is *Mappadendang*, it is played for expressing the people happiness after harvesting, especially for the youngster. The other is *Pappaseng* which is used as a guidance in implementing and arranging the government, it is also used as the source in educating good attitude and moral value. However, Mr. Yunus states that almost all of those traditional medias is rarely found nowadays. Therefore, he tries hard to preserve the traditional media especially owned by the Buginese. It is the reason of why Mr. Yunus very adore *Kecapi* performance, because he thinks that there is rare of people who mastering it, thus he tries to make it popular by broadcast it on his radio. Apparantly, it has many listeners that come from villagers or citizens.

At a moment, when Mr. Yunus is trusted to hold *Kecapi* championship by a private company which is also used to promote that company's product. The result is unbelievable, the people have a high interest on it, there is also a high desire of the audiences in watching it. The company owner, as the main funder, reveals that the program is held successly, as the result the company's purpose to introduce its products is also success. Moreover, after the competition, there are many CD and DVD of *Kecapi* performance which is sold. Eventhough the buyers are mostly old people above 40 years old. Therefore, according to Mr. Yunus, the marketing media is not only a modern media, but also the traditional such as *Kecapi* and other traditional media which is very effective and efficien for introducing a product to public, especially the inhabitants.

He also states another explanation that his adority toward *Kecapi* performance is caused by its positive message for educating and introducing values, also because of the audiences' participation in every show, so the audiences are entertained by the message delivering which is expressed by singing the rhyme spontainiously. The message is delivered effectively because it has a direct corelation of the people live. Besides, there is an interactive dialogue between the players and audiences.

Eventhough, most of *Kecapi* players have low education level, but they have a natural high talent and desire, and also they do not have a commercial desire in playing it, therefore they are able to perform a high quality performance. Almost all of the story in the *Kecapi* performances have been performed in the other places, but it is still interesting because the *Kecapi* players have skill to do a good movement or express an enjoyable humor. Moreover, the movements do not change the main messages of the performance. Even the players are different, but when they perform a same story, the messages which are delivered are same, eventhough there is no written source. Because all of the sources are brought from the former *Kecapi* players verbally.

Related to the action of the young generations, Mr. Yunus explains that when the competition is held, the audiences are spread evenly from the children to the old. However, based on the players, it seems that the young

generations do not too interest in it. It is possibly caused by a thought that *Kecapi* is old fashioned. Particularly the young generations who live in the city, they do not have desire to play it. They only want to listen or watch the performance, but not for practicing.

Related to the preserving way of the art performance of *Kecapi*, Mr. Yunus gives his opinion that some Buginese *Kecapi* communities take their own way. It is difficult to gather them in order to preserve the art of *Kecapi*. The preserving way is also done apartly, for example is teaching the youngster in their surrounding, or even just teach their children. It seems that the government does not implement a serious preserving. The government is occasionally set an estimation cost for the players, moreover if they are invited to perform or participate a competition in the other regions, but it have to submitted early, if it does not submitted early, the estimation cost will not be estimated. Absolutely, it becomes a serious problem for the *Kecapi* players.

Based on the government side, the preserving effort is decided by the regent. If he adores in art, the art performance will be develop well, but on the contrary the government will not give a serious attention. The more effective preserving way is commonly done by the companies who are apprehensive about the Buginese culture. Therefore, Mr. Yunus who adores *Kecapi* performance tries to develop and preserve it individually. For example is by introducing and offering its performance toward the businessmen, so they will always invite *pakkacapi* in their party or ceremony.

This way is more effective, because it is proved that after holding a *Kecapi* championship or competition, the *Kecapi* players accept more invitations. Moreover, they are occasionally cannot accept the invitations because it is too much. This condition causes some privat companies or bank interested to exploit the traditional media of art performance of *Kecapi* to promote their products. It means that the traditional media of art performance of *Kecapi* has a new function as a promotion media that is seemed more effective.

In order to get a detail information about the Buginese traditional media, the writer comes to an informant who is the Buginese elder and also the *Lontara* translator (Old Buginese scripts). He is ever invited to Dutch in order to translate the script of *La Galigo* in the *Leiden* library, Dutch. He is Mr. H. M. Salim, 71 years old, who lives in Makassar and a pensioner from the Department of Education and Culture of South Sulawesi. Mr. Salim, his nickname, explains that the traditional media in the South Sulawesi has been existed since *Batara Guru* is delegated as the first person in the Bugis, it is also told in the script of *Lontarak* or *I Lagaligo*, for example is the using of tool and art performance in the variety of ceremonies that is called as traditional media. Other examples are the using of *Kecapi*, *Folk Dances*, *Tudang Sipulung*, *Pappaseng*, *Mappadendam*, *Elong Pelong*, and *Kentongan* as the society communication media. Those are the main equipment for the ceremonial process that is done by the *Bissu* as the group of *Tomanurung* in the past.

In the kingdom period, the traditional media is also known even the function has been changed. The traditional media in that period is not only as the ceremony equipment, but also as an entertainment and giving information for the society, or in the other side it can be performed as a message delivery or the people action to the government. Thus, in that period the traditional media is functioned as an effort to build the people in teaching values, magnificiencing a religion, delivering information about the kingdom rules or the society education.

Nowadays, actually there are traditional media which have the same meaning as the past, but they do not have an opportunity to perform it because the youngsters are more interested in the modern media. This fact should be noticed by every individual so the traditional media is able to be preserved. For examples are *Pappaseng*, *mappadendam*, and *elong pelong* which are rarely performed, eventhough they contain of positive messages about good attitude, teaching values, moral, religion, the correlation between human and nature, social control and criticism and other positive messages for children, even the youngsters.

Papaseng, *Mappadendam*, and *Elong Pelong* are the kinds of art performance which are aimed to deliver messages as explained above, the source is read from the *Lontarak Attorioloang* (the former's holy book), they are performed in a certain moment, especially when the people hold a ceremony or party individually or together, for example is a harvesting ceremony. The art performance is performed to express a gratitude to God. Therefore, since long time ago, the art performance is able to give a positive benefit for the people. Moreover, that media is not only become an entertainment, but also a guidance.

Mr. Salim also explains that the first time of the existence of traditional media, it contains much of myths, for example is the story of *Miong Palo Karellae* (spotted cat) which is accompanying the goddess of rice rounding the South of Sulawesi, the leadership of *Sawerigading*, or *I La Galigo*, and other myth stories. Those stories are mostly give a good guidance for the social life, they teach the human to live normally (in the good line). It can be defined that not all of myths give a negative impact, some of them which are performed as traditional media can be a good life guidance.

In order to keep the existence of Buginese traditional media, Mr. Salim assumed that it needs a cooperation and high desire of many sides, from the government, cultural observer, traditional media community, and private company. If they are able to create an effective cooperation, so the traditional media is able to be preserved. The meaning of cooperation above is the government and private companies set an estimation cost, then the cultural observer and traditional media community give a special training or electing the talented young generations. Thus, the traditional media is able to be preserved.

A review that is related to the performance of traditional media in Bugis is also stated by Mr. Abduh, 53 years old, besides as an admirer of the traditional media, he also works as a journalist. He ever becomes an art performance of traditional media trainer of *Mappadendang*. He explains that he loves an art performance which is formed as a heritage from the formers such as *Kecapi* or the art performance of *Mappadendang*. Meanwhile, he confesses that almost every night he watch or listen to it. Moreover, he has his own collection to be heard while driving. Actually, *Mappadendang* only can be performed while harvesting time, Mr. Abduh as a *Mappadendang* trainer states that it is performed as the people's gratitude to the God. Mr. Abduh as a *Mappadendang* player is also a Silat trainer (traditional self-defence arts). Because the performance of *Mappadendang* usually integrates of the movement art and the sound of the rice pounder which are called as *alu sibawa palungeng* (Read: the rice pounder with a mortar). (Note 6)

Mr. Abduh reasons of loving the traditional media are beside entertaining, *Kecapi* performance and *Mappadendang* are also full of good meanings that teaching about values and wises. So that it is not only an entertainment, but also as a guidance. As an entertainment because it entertains the audiences, and as a guidance because it is full of messages about moral value, religion, attitude, and positive advice. The messages about human life, education, attitude, children attitude toward their parents, heroism, history, value, kingdom story, romance, moral, religion, social, health, and the others are delivered clearly. The topic is taken from some sources then improved by the players in order to create a good rhyme which is enjoyable to be watched or listened.

He is occasionally laugh by himself while listening the rhymes that is performed in the *Kecapi* performance, thus he can be relaxed after working all day. Therefore, Mr. Abduh states that the messages which are delivered by the art performance of *Kecapi* and *Mappadendang* are very valuable particularly in teaching values to the children also for the social people.

Especially, he states that his interesting in *Mappadendang* because the messages which are delivered are understandable by the society, it is about persuade people about gratitude to the God because of the harvesting result. Thus, the messages which are delivered can be an information to the people that in that place will be held a wedding ceremony. Furtherly, Mr. Abduh states that in the past, Buginese wedding ceremony is a kind of extravagant ceremony which is held after the harvesting time, therefore before it is held they have to prepare various necessities including pounding the rice for that ceremony. Pounding rice is not only done by the family member, but also by the close neighbor even the far neighbor, they come to help by bringing the rice pounder (in the Bugis language called by *alu*). It is aimed to make the hostess happy, they create a rhythm by pounding the rice. It is the history of the art performance of *Mappadendang* in Bugis.

The traditional media such as *Kecapi* or *Mappadendang* are not monotonous although it has been listened for times. It caused by the *Kecapi* or *Mappadendang* players are really creative in creating a fresh humor and movement so those performances are really entertaining, even there are some interactions between the players and the audiences. Therefore, the people feels that they are owning them. It means that as long as the society is exist, the cultural art of *Kecapi* and *Mappadendang* will be always exist even if not every individual is able to be the leader. Therefore, in order to keep their existence, there should be a serious effort of the Cultural Department to register them as a traditional media. Actually, the department has prepared the facilities which are needed in order to preserve all kinds of cultural art including *Kecapi* and *Mappadendang*. However Mr. Abduh explains that in order to get the facilities they have to be registered.

Especially, there should be an Indonesian *Kecapi* Community for preserving the art performance of *Kecapi*, that community will handle about how to empower the players which are mostly have low education. Therefore, it needs a professional organization in order to empower them. This kind of organization is expected to be able to decrease any kind of exploitation or deception toward the *Kecapi* players. That organization will give a protection and careness toward their right. Moreover, that organization is also able to pay attention toward the cadre aspect, so it can be handled well, thus the society are not worry about the future of that traditional media.

3. The Existence of the Art Performance of *Kecapi* Based on the Face to Face Point of View

The explanation that has been stated by Daeng Tutu, Mr. Rozak, Mr. Hafid, Mr. Haji Ma'ruf Saleh, Mr. Sabri, Mr.

Haji Yunus, Mr. Salim, and Mr. Abduh are their way of thinking and understanding about the existence of the traditional media of the art performance of *Kecapi* which has been existed in the Buginese society, it also shows the fact about their existence. The form, playing process even the history are absolutely known and understood. It expresses their admires and appreciation toward the traditional media especially the art performance of *Kecapi*. As an individual who adores the art performance of *Kecapi*, they have an awareness to always preserve and make the traditional media of *Kecapi* to be popular. Moreover, they expect that there will be many sides who pay their attention in order to preserve the traditional media of the art performance of *Kecapi*, even other traditional medias, so the young generations who have a low attention about *Kecapi* can begin to like it. Therefore, it can be said that in truth they are really open-minded to accept new elements as long as do not decrease the existence and function of the art performance of *Kecapi* as the Buginese traditional media.

There is a high effectiveness of the messages which are delivered in the traditional media of the art performance because they are delivered by face to face communication directly, so it is enable of occurring a personal contact where the *Sinrilik* and *Kecapi* players may make a contact with the audiences. When the *Pasinrilik* and the *Pakkacapi* are delivering the messages, the audiences may give an immediate feedback at that moment. The players of the traditional media of art performance are able to know the audiences' response toward their messages, expressions, and stage movements directly. According to those conditions, the traditional media players as communicators are able to evaluate their performance, whether get a positive response from the audiences or in contrary they get a negative response because the audiences assume that the performance is not entertaining.

Therefore, Effendy (1993:62) states that a face to face communication is more effective in changing other's behavior. Because that kind of communication is using a persuasive communication technique, it means that a kind of communication technique is psychologically sensitive and contains of an attractive persuasion. However, he also explains that a communication technique of personally persuasion is only may performed in front of the potential audiences. It means that it should be performed by the player or elder who has a high influence in the society, so the performance is able to change the audiences' behavior or ideology, they will follow the messages which is delivered in that performance.

Related to the face to face communication as explained above, Devito (1997:259) remembering five important aspects which have to be considered in making a closer personally communication; Firstly, the openness of the communicator. The player who delivers the messages should be opened toward the audiences who will receive the messages, in this case it means that the player should be opened toward certain elements properly. Thus, the communicators may act honestly when they get a feedback or stimulus from the audiences. The communicators are also expected can admit that the feeling and thought which are delivered are from themselves and can be guaranteed. The best way to express the responsibility is by using the personal pronoun of "I".

Secondly, the feeling of empathy which means as an ability that have to be owned by the communicators in order to comprehend the audiences' feeling, comprehend the audiences' point of view by using their point of view. In order to be empathy, it can be practiced by control the desire of evaluating, commenting, and criticizing the audiences (it does not mean that those reactions are "wrong", but rather those are able to obstruct the audiences' comprehending). Meanwhile, more people that are the players known based on the desire, experience, ability even strength, they will have more ability in understanding the audiences' feeling. The empathy can be communicated verbally even nonverbally, for example is an active interaction between the players and the audiences through their expression and appropriate movements, doing a centrally concentration through the attentive eye contact, and other properly contact.

Thirdly, supportive action. It is related to the concept of openness and empathy, because both of them cannot be done in the unsupportive situation. The indication of a supportive action is when the players are explaining not evaluating, spontaneous not strategic, act tentatively, open minded, want to listen an antipodes point of view, want to change the position if it is propered, and do not defensively over confidence so they are able to accept others' thought even idea.

Fourthly, positive action. It is important because the communication will be work well when the people inside have a positive behavior toward themselves or others, so they can support themselves in order to respect the importance and existence of other people. Fifthly, an equality, which is a main determining aspect in creating an impressing face to face communication. In this case, there must be an expressively or silently confession that every person who is involved in a communication has value, valuable and an important side. Thus, it can be explained that an equality means that every individual is able to accept the other, or giving a positive appreciation toward the others without any requisite (see Goldberg, 1985: 71)

The society and cultural condition of South Sulawesi in the form of custom, tradition also the alteration, including the the alteration of *Kecapi* performance, in the social aspect or the cultural changing, as the result is the comprehending in this review, that the alteration will always become their identity. Identity is an important aspect in the cultural perspective of media, because the identity is figuring the society and culture which is in the future it is able to help in comprehending the function and meaning of the activities which are done by the society itself.

4. Closing

Art performance of *Kecapi* is a kind of traditional media which is performed by Buginese people in order to deliver and accept variety of messages, it becomes the part of communication system of the Buginese society, where the communication system itself is involved in the part of social system of the Buginese people culture itself. Therefore, it can be concluded that the existance of the art performance of *Kecapi* as the kind of traditional media has a certain corelation with the communication system and socio culture system from the Buginese society as the owner and main supporter.

The art performance of *Kecapi* which is owned by the Buginese people has a characteristic, nature, position, and function even it can give a certain result and has a potency or strength which are able to influence the mindset and behavior of the Buginese people. Therefore, in packaging the messages which are going to be delivered by the *Kecapi* players as the communicator must consider about the audiences' demand and necessity as the messages receiver. Because, by that way the players as the communicators have understood the development demand of the era that tend to performing an art performance which is appropriate with the character and desire of the audiences.

The traditional media in the South Sulawesi is reputed as a "cultural commodity". It means that the program substance is a kind of commodity which is produced then may be sold (in the form of CD, DVD, Video tape, or the payment from the performances). Therefore, professionally it can be concluded that the traditional media is a valuable profession which should be appretiated, because in the production process it involves and exploits the people skill (collaboration process). The traditional media communities in the examination place express their ability by being the producer and cultural establisher. Their rule also as a social institution such as school and family which beside giving an entertainment, also doing other functions such as production, socialization, value teaching, education, giving information, even social control toward the children, youngsters, workers, ethnical groups, or other groups in the society. Based on that meaning, it can be concluded that culture is an exist activity in the society which is containing of a traditional media.

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Notes

Note 1. Buginese is one of four biggest ethnic in the South Sulawesi-Indonesia. The other ethnics are Makassar, Mandar and Toraja.

Note 2. The performance is occasionally begin since after praying Isya until befor praying Subuh.

Note 3. *Kecapi* is a traditional music which is made from wood, it is played by picking, while *pakkacapi* is a person who plays it. The picture of *Kecapi* can be seen on the appendix 3.

Note 4. *Songkok to Bone* is a unique head cover from South Sulawesi which is wore by the former noble, but nowadays it is wore by social people. This head cover or hat is made from the plaited rattan which is layered by gold thread. (See picture in the appendix 4).

Note 5. The case that is faced by Mr. Sabri is also faced by other heritage media players. It happens because of the less understanding of the heritage media player about contract, control, license, royalty, and so on. It is also caused by the less of advocacy from a certain sides in order to preserving the heritage media collection and the players.

Note 6. *Alu* is a utility to pound rice which is made from a round wood within the size is between 150 to 200 cm, while *palungeng* is a place to put the rice that going to be pounded which is like a boat and is also made from wood. In the villages, this tool is used for pounding rice so it can be eaten. (See picture in the appendix 6).

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Research on Enhancing the Actual Effects of Multimedia Teaching in Colleges and Universities

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Abstract

Multimedia teaching is a basic means of teaching. It is an indispensable means to improve teaching quality and effect, to arouse the enthusiasm of students, and to enhance the learning atmosphere of classroom teaching. However, some multimedia practitioners have shortcomings and a one-sided understanding of multimedia teaching. This can reduce the practical benefits of multimedia teaching in colleges and universities.

This paper analyzes the problems and practical effects of multimedia teaching. It seeks to describe the current practices of multimedia teaching in colleges and universities, and puts forward some basic strategies to enhance its effectiveness for the information of multimedia users.

Keywords: actual effect; classroom teaching; higher education; multimedia

1. Introduction

As early as the mid-late 1940s, a wide range of multimedia teaching methods already existed. However, the level of science and technology was relatively low, with multimedia teaching restricted to playing slides or movies, mostly for science teaching. By the late 1980s, with the rapid development of educational science and technologies, multimedia teaching had undergone a significant qualitative change. Film, television, slide, projection, etc. were in wide-spread use in teaching at the time.

The adverse economic conditions in the 20th century constrained the promotion and widespread use of multimedia teaching. However, with the advent of the 21st century, and China's rising national strength, the state's investment in multimedia education has increased year by year. It has become recognized as a necessary means of teaching, and its use is very widespread almost universal.

Multimedia teaching can be a double-edged sword. It improves the quality and effectiveness of teaching and mobilizes the enthusiasm of students to learn and activates classroom atmospherics. But, it can also bring problems where teachers rely entirely on multimedia classroom teaching. For example, if there is no multimedia component in the coursework or there are technological issues or power outages, teachers do not know how to complete lessons and teaching tasks. Additionally, some teachers replace physical experiments with the use of multimedia teaching. This does not allow students to fully experience the hands-on practicalities, and original purpose of experiments.

In order to solve the short-comings of multimedia teaching in colleges and universities, many domestic educators are actively studying and exploring how to enhance the practical effects of multimedia teaching, and have achieved beneficial results. For example, Guzong Yun and others discussed the problems and countermeasures of multimedia teaching in colleges and universities (Gu, Du, & Yin, 2013); Chen Cuirong, Zhao Sa and others use the interview method to study and explore the problems and countermeasures of multimedia teaching (Chen, & Zhao, 2013); Zheng Xining, The paper discusses the influence factors of multi-media teaching in colleges and universities (Zheng, Zhao, Chen, Zhang, & Zhang, 2012), and discusses the effectiveness of multi-media teaching in Li Juan's ideological and political course (Li, 2013). These beneficial explorations of educators have played a role in promoting multimedia teaching practice and improving the practical effect of multimedia teaching. However, these studies and explorations of educators do not solve the problems of multimedia teaching in the majority of colleges and universities. Multimedia teaching in colleges and universities is still in a less than satisfactory state. Against this background, this paper analyzes problems and causes of current multimedia

teaching in colleges and universities and puts forward concrete strategies to enhance the its effectiveness. The proposed strategies can improve the quality of current multimedia teaching in colleges and universities.

2. Current Status of College Multimedia Teaching

Multimedia teaching has become one of the most commonly used means of teaching and has been widely used in various areas of academia. The equipment most frequently used is audio, film, television and screen projection using computers and projectors. With the continual development of teaching methods and education technology more complex technologies are being adopted. These include computer and all-in-one display machines, multimedia spaces and integrated blackboards.

Such is the demand for multimedia equipment from courseware developers and college teachers that both groups suffer shortages of multimedia equipment and facilities. It is difficult to make a proper evaluation of the impacts of the shortages due to the lack of systematic and scientific evaluation measures.

3. Multimedia Teaching Problems at Colleges and Universities

3.1 Problems at the Extremities of Teaching Methods

The so-called problems at the extremities of multimedia teaching refer to either an over-reliance on multimedia in coursework, or its total absence, by a return to traditional blackboard and chalk teaching methods.

For the former, most of the university teachers are completely dependent on multimedia for delivering coursework. They feel that the use of multimedia is not only practical and logical, but it also to mobilizes the enthusiasm of students for classroom learning. They do not need to engage in a lot of blackboard writing or say a lot of words, as in the past. Through the use of multimedia, the teacher is able to concentrate on the course outline, focus, difficulties and important conclusions as they are presented on the projection screen for students. For these teachers, the key to maintaining normal teaching order is the availability and proper operation of multimedia teaching equipment, and the absence of power failure or outage. The inability to engage appropriate multimedia equipment in coursework presentation will prevent teachers completing teaching tasks and regimes.

For the latter, they primarily use a blackboard and chalk methodology to connect with the minds of students. The link is an indispensable means for teachers to improve teaching effectiveness. Therefore, they believe that no matter how good multimedia teaching methods are, there is no case for the absence of blackboard teaching.

In fact, teaching practice at both of the extremities is deficient. Whether it be only multimedia teaching, or traditional blackboard and chalk teaching, they are only a means to teach. In today's rapid development of modern educational technology, teachers can make full use of multimedia teaching methods to improve teaching effectiveness and yet still use traditional blackboard and chalk teaching. According to the theory of pedagogy, the choice of teachers' teaching methods mainly depends on the content and goals of the coursework, and the objectives of the teaching lesson. So, it is not to completely embrace multimedia teaching and abandon traditional blackboard teaching. Rather, it is to select the teaching medium that best achieves the highest teaching effectiveness whilst having regard to the nature of the coursework and the specific objectives of each teaching lesson.

3.2 The Formalization of Multimedia Teaching

Multimedia teaching involves the use of multimedia equipment to produce sound, symbols, text, images to students in the form of displays. It has the characteristics of fast propagation speed, large amounts of information and lifelike content. It seeks to immerse the viewer in a creative world of teaching. Many teachers favour multimedia teaching for its perceived superiority.

However, multimedia teaching is only a means to improve teaching efficiency. The form of any teaching method must be in line with the objectives and content of the coursework, and the objectives of the teaching lesson. There cannot be a simplified reliance on any multimedia tool for teaching efficiency without regard to these factors. For instance, video and images shown over a short period of time do not allow students enough time to think about the content of the teaching lesson. This is not an appropriate use of video or video services for classroom teaching because the display time is relatively short.

3.3 The Problem of Multimedia Teaching Simulations

One of reasons for the establishment of experimental courses in colleges and universities is to verify the knowledge, principles and laws of the existing disciplines. Secondly, it is to cultivate the ability of college students to solve practical problems. Experimental teaching is the key to develop college students and train students with hands-on abilities. In experimental teaching classes, these aims cannot always be successfully completed through the use of multimedia simulations. In these situations, the teaching of alternative multimedia

teaching must be strictly controlled.

3.4 The Evaluation of Multimedia Teaching Effectiveness

The evaluation of the effects of multimedia teaching is a difficult process as there is no available objective, comprehensive and systematic evaluation indices. At present, evaluation of the effectiveness of multimedia teaching in colleges and universities relies solely on school teaching practitioners using after class qualitative evaluation indicators. These qualitative assessments are not reliable and depend on the educational experience, knowledge and subjective assessments of practitioners. The evaluation results will not support quantitative assessments and lose their scientific basis.

3.5 Multimedia Teaching Management Issues

The management of multimedia teaching in colleges and universities is spread amongst the school administration office, the modern education technology centre and the assets management department. This management framework leads to unclear responsibilities. And, if the communication and coordination mechanisms are poor, conflicts can arise.

From the perspective of school asset management, multimedia classroom equipment is managed by the Department of Assets, the Office of Academic Affairs, and Modern Education Technology Centre. Users may not bear relevant management or ownership responsibilities. In these situations, asset risk is heightened, and in the event of theft or other incidents, it may be difficult to determine offending parties.

4. The Reasons for the Problems of Multimedia Teaching in Colleges and Universities

4.1 Failure to Understanding the Concept of Knowledge

In the eyes of many teachers, multimedia teaching is a panacea that can be used to solve all the problems associated with knowledge transfer. As a result, many teachers adopt an extreme position in the use of multimedia teaching. In fact, there are no absolute truths in the regime of teaching. Any method or means is not a panacea, and attempting to use a sole teaching method or means to solve all issues is unrealistic.

Teaching methods and means for the purpose of knowledge transfer need to base on an evaluation of the objectives and content of the teaching lesson. In the final analysis, it can be said that problems associated with multimedia teaching arise, because teachers do not correctly understand the meaning of multimedia teaching.

4.2 The Level of Teaching and Training Teachers Affects the Effectiveness of Multimedia Teaching

The beneficial effects of multimedia teaching largely depend on courseware produced and utilized by teachers. As a result of modern education technology, and the availability of broader computer technologies, teachers do not encounter technological issues when developing courseware. However, problems can arise with the framework, structure, content, logic and other aspects of courseware development. In a general sense, multimedia courseware is equivalent to traditional teaching lesson plans. In traditional teaching an excellent teaching plan features clear purpose, focus, detail and appropriate structure. Multimedia courseware should also reflect the above characteristics. However, a number of factors are adversely affecting the quality of multimedia teaching courseware. These include teaching and training constraints, a lack of clear focus and structural development issues.

4.3 Teacher Attitudes Can Create Problems in Multimedia Teaching

Teaching is a form of creative labour that can demand excessive efforts in relation to its level of pay. Therefore, good quality teaching requires teachers who dare to sacrifice. However, there are some teachers who strive to gain more income using the philosophy of reciprocity as their guide. In these cases, they may use the development of multimedia teaching methods for their own private benefit.

5. Enhance the Effectiveness of Multimedia Teaching in Colleges and Universities

5.1 Correctly Handle the Relationship between Traditional Blackboard Teaching and Multimedia Teaching

Traditional blackboard teaching has a long history of development and it has accumulated a wealth of experience. So, it is important not to completely embrace multimedia teaching at the expense of traditional blackboard teaching. Rather, traditional teaching features excellent detailed teaching plans featuring purpose, focus and structure. These inherent characteristics should be adopted for the development of multimedia teaching courseware.

And, importantly, when it comes to selecting the teaching medium the aim should be to achieve the highest teaching effectiveness having regard to the nature of the coursework and each teaching lesson.

Multimedia teaching is a modern teaching method. It uses the instrument, the equipment and the software to synthesize teaching content into sets of pictures. It also uses sound to create integrated teaching courseware that not only saves teaching time, but also enhances the teaching effect. Traditional blackboard teaching and multimedia teaching have their own merits and teachers must manage the relationship between the two. First of all, whether using traditional blackboard teaching or multimedia teaching, they are to complete the corresponding task of teaching. Secondly, the relationship between traditional blackboard teaching and multimedia teaching is not a subordinate one or a mutually exclusive one, it is a complementary one. Whichever you use will depend on the specific circumstances of the teaching task and its purpose.

5.2 Grasp the Effectiveness of Multimedia Teaching

Multimedia teaching must not be used just for its own sake. Multimedia teaching practitioners must understand the nature and purpose of teaching, and its fundamental principles. They must manage the duration of multimedia teaching classes, the use and frequency of video and audio, as well as the selection of pictures and other images. Otherwise, the entire classroom teaching will involve too much text, pictures, animation, sound interference that replaces the core teaching function. Multimedia courseware must give students the space to think, and promote positive thinking, and active student learning.

5.3 Correctly Handle the Experimental Teaching of Multimedia Teaching Alternative

Courses in colleges and universities that involve students in many physical and scientific experiments are designed to verify the knowledge, principles and laws of the existing disciplines. The teaching in these courses aims to promote the hands-on skills and practical abilities of students. When teaching these courses these aims cannot always be achieved through the use of multimedia simulations. In these situations, the use of alternative multimedia teaching must be strictly controlled to ensure that teaching plans and classes will address the needs of students.

5.4 Construction of a Multimedia Teaching Effectiveness Evaluation System

The evaluation of multimedia teaching effects suffers from the lack of an objective and comprehensive evaluation system. This paper suggests that colleges and universities should formulate an evaluation standard for multimedia teaching efficiency as soon as possible. It should involve qualitative evaluation techniques. The aim of this evaluation methodology should be to improve the quality of multimedia teaching. And, measures to improve the quality of multimedia teaching should include inspiring students to positive thinking and a broad understanding of the education process.

5.5 Establish Clear Responsibilities for the Management of Multimedia Teaching

There is a need to establish a management framework with clear lines of responsibility. In addition, colleges and universities should formulate corresponding management methods, and further clarify the management responsibilities of multimedia teaching. It is suggested that the classroom management of the multimedia teaching should be centralized in the modern educational technology and educational administration, and the office of academic affairs should be unified according to the teaching plan of the university. The quality of multimedia teaching should be managed by the Academic Affairs Office.

6. Conclusion

In summary, enhancing the effectiveness of multimedia teaching will not only involve improving the quality of school teaching requirements, but also cultivate high-quality personnel training needs. Universities and colleges should engage in greater efforts to improve multimedia teaching and ensure the quality of modern teaching practices.

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The Civil-Military Integration and the Development of Education System in Defense Institutions: Indonesia's Case

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Abstract

There are demands for defense educational institution to contribute in general knowledge, not only in the substance of war and defense science. It is also related to current threat against a country that is no longer just conventional, but also non-conventional threats that cover dynamics in civil society. This paper will discuss civil-military integration (CMI) in the development of education in military and defense institutions in Indonesia. It will also offer five levels of CMI in education. Each level has different CMI weights in education. In addition, this paper argues that CMI as part of Civil-Military Relations (CMR) provides a perspective that the development of education in military and defense institution can not simply adopt the general education system and pattern in civil institutions, but require the integration of mutually reinforcing and confirms the characteristics and patterns of education in professional military institution without losing the distinctiveness of education in the defense institution.

Keywords: Military, CMI, CMR, Defense Institution, Defense Education

1. Introduction

Defense educational institution in Indonesia is experiencing rapid development, marked by the founding of Indonesian Defense University (here after UNHAN) that focuses on Post-graduate Scientific Development (Master Program) and currently designing the doctoral program (Note 1). The presence of UNHAN with its post-graduate programs encourages other defense institutions, Army, Navy, Air Force and also Ministry of Defense to enroll their best personnel to study in UNHAN. This university under Ministry of Defense also accepts students from other institutions related to defense and security issues, in the scheme of a full scholarship (Note 2).

Difficulties in early formation of UNHAN is that no military officer is college graduates or at least have equivalent academic degree like civil students, as pre-requisites for post-graduate education. Many officers studying in UNHAN are civil-recruited officers (Draft) who have college degree, or officers who postpone his duties to take undergraduate courses. Initially the situation was resolved when there is no necessity for prospective military background students to hold a bachelor's college, as long as they are recommended by their unit and pass admissions test (Note 3). At the same time, Ministry of Defense, Armed Forces headquarters, and all armed forces units issued a policy that graduates of military academy have earned an academic educational degree, as part of an integrated education system. So that all graduated officers from the academy is able to continue the post graduate level in UNHAN and applied master degree by each dimension (Note 4).

However, the problem re-appears when graduated officer from the military academy do not have undergraduate education certificates and Master Degrees graduated of UNHAN are not accepted by other universities with Doctoral program. Although a number of universities finally received UNHAN graduates under certain conditions, but the situation is not solved, because not all UNHAN graduates are automatically accepted for higher education level (Note 5).

UNHAN experiences above shows that the management and development of education in the defense institution require important adjustment in mechanism at the national level. This adjustment does not have to eliminate education character in military institutions. The demand with officer's qualification is not only proficient in

combat and non-combat military role, but also has academic qualifications with ability to read and understand the dynamics of society simultaneously (Note 6). Defense perspective is no longer limited to conventional warfare where non-traditional security threat requires different skills of military officers. Combined military training and national education system is expected to produce military officers with expected qualifications.

This paper will discuss civil-military integration (CMI) on the development of education in the military and defense institutions. It will also offer five levels of CMI in education field. Each level has different weights associated with CMI in education field. In addition, this paper argues that CMI as part of a Civil-Military Relations (CMR) provides a perspective that the development of education in the military and defense institution can not simply adopt the system and pattern of education applied in civilian institutions, but requires integration of mutually reinforcing and confirms the characteristics and patterns of education in professional military institution without losing the distinctiveness of education in the defense institution.

2. Civil-Military Integration and Educational Institutions of Defense

The Civil-Military Integration (CMI) term is widely used to describe the integration of technology and defense industry with civil technology and industry. Collaboration between the two later then defined by the Office of Technology Assessment of the US Congress, as the process of merging the Defense Technology and Industrial Base (DTIB) and the larger Commercial Technology and Industrial Base (CTIB) into a unified National Technology and Industrial Base (NTIB) (Note 7). However, in this paper, the civil-military integration is focused on the collaboration of civil and military perspective in the development of education system in the defense institutions rather than on the development and integration of technology and industry. Therefore, by adopting the definition associated with the integration of civilian-military in the development of education, it can be defined as follows: "The process of merging the military and defense educational system (SPMP) with the national civil educational system (SPSN) to make education system in the defense institution with fixed characteristics and patterns that exist but are connected to the national education system".

Conceptually, the CMI in the integration perspective of technology and defense industry and civilian industry and technology, there are three levels to describe the maturity and reliability of the technology and industrial integration between military and civilian. They are: management sector (Sector Level), the level of institutionalization of the firm (Firm Sector), and the third level of the facility (Facility Level).

At integration level of civil-military technology and industrial sectors, they are in the stages where they share common technology, processes, and special assets e.g. wind tunnels, technological research centers and industry. An integrated industrial sector can be said if the goods or services of defense drawn from a source of the same industry, specialized assets, and processes go hand in hand (Note 8).

While integration at the enterprise level is marked by sharing resources owned company to meet the needs of defense and commercial needs. These resources include management, employees, research centers, equipment, stock, and public facilities. A company that facilitates the movement of staff between defense and commercial work and the transfer of manufacturing and technology products back and forth can be considered to be integrated at the enterprise level, although it may separate operating divisions along the lines of commercial and defense (Note 9).

While the third level and the deepest level of integration is within the facility. Integration at this level is characterized by the division of personnel, equipment, and stock in a single facility. In an integrated facility, defense and commercial goods will be produced side by side, with differences in the production process and other parts that are dictated solely by the function of the product (Note 10).

In the context of civil-military integration on educational development, these stages can be adopted and developed into five stages (see Table 1), with more oriented on how to develop education in the defense institution. The thing that distinguishes the target and objective is civil-military integration in the development of educational institutions should be more independent in the educational pattern and characteristic.

Sector level stages in civil-military integration on the development of defense education in military institutions adopt a number of studies in order to strengthen the analysis of civil and military operations and defense interests. At this stage, approaches emphasize the importance of civil-military relations with various studies to strengthen civil-military interest in the role and function of professional soldiers (Note 11). At this level, educational defense institutions just take advantage of the teaching staff are considered capable of providing the required studies perspective.

In the second step, the interactions between civilians and the military in the educational field has emphasized the importance of civic studies for military operations and border control. In addition to establishing a study center

or scientific research institutions, slowly and planned, military and defense institution then share educational curriculum to be studied on a limited basis to sustain the role and function of military and defense institutions. In a certain degree, the transition process in establishing University or higher education institution is oriented to strengthen civil assessment in order to strengthen the role and functions of defense institution gradually.

At the third level, civil-military integration is established with adjustment in facility and recognition of a degree generated by defense educational institutions. Some adjustments are made as plan to articulate stronger integration between civil and military education. Indication of the reinforcement is on the recognition of graduates from defense educational institutions in national education system. At this stage, in general, educational dichotomy between civil and military is no longer admitted by accepting civilian students in defense educational institutions.

The fourth stage of the civil-military integration is to strengthen education curriculum from their respective educational institutions and civil defense. One indicator in the level is the defense educational institution is able to meet the requirement of teaching staff independently, based on internal needs and good qualifications. Civilian role in this level is to ensure that the existing curriculum in the defense institution remains connected with the applicable national education system. This one is to emphasize the importance of quality of lecturers in their field of taught study.

The fifth stage, the highest stage of civil-military integration in the field of educational defense, is at the level of competence resulted from education of both institutions, civilian and military. Competence of civilian and military graduates showed that the defense educational institution is integrated in the national education system. Defense issues once considered is difficult to understand by civil society, in this stage, becomes an integral part. The shifting threat of traditional security threats into non-traditional security threats asserts defense should no longer simply be viewed from a limited perspective to the importance of civil-military integration in education. Defense education eventually will find their own character, but the relationship between civil-military will strengthen in other forms to ensure that the education quality is correlated with educational infrastructure and human resources remain linear with the national education system.

Table 1. Comparison of Civil-Military Integrity (CMI) Strategic Defense Industry and Educational Institutions

No.	Civil-Military Integration(CMI) Strategic Industry (Note 12)		Civil-Military Integration (CMI) Education (Note 13)	
1.	Sector Level	Technology Sharing	Sector Level	Adopting civil researches for defense needs
2.	Corporate Level	Resource Sharing	Corporate Level	Adjustment and/or establish education institution
3.	Facility Level	Sharing of personnel, equipments, stocks in a single facility	Facility Level	Adjustment of education institution
4.	-		Curriculum Level	Independent curriculum
5.	-		Competency Level	Equal competency

3. Education Scheme Civil-Military Integration

Each level in civil-military integration in defense education has prerequisites as described in the beginning. However, civil-military integration in defense education is often disrupted by deviant practices of cronyism eroding professionalism of the institutions. Experiences of some countries, in the end, showed poor intention and commitment when addressing the practice of cronyism and deviations in of defense and military educational institutions. The built commitment determines the real picture of the institution. Leaving deviant practices would only delay the development of defense educational institutions into professional. Indeed, there are steps to read and identify deviant practices so that the way to improve the desired institutional can be measured.

There are four deviant practices that could threat the development of defense educational institutions. The first, related to the Human Resources (HR) Quality of the lecturers. There are two variations of irregularities relating to this case, namely: the incompetence of the teaching staff and nonlinearities qualifications related to the subject taught.

Second, the interrupted curriculum development by desires of human resources, not based on the need of the education. So often the curriculum is made to accommodate the wish of the existing teaching force. No wonder

if then the perspective that is built is not entirely based on the development of professional education institutions.

Third, the faculty intervention in selecting lecturers based on the plotted competence and qualifications. Intervention and interference to determine names of lecturers are usually associated with their approaches to the leader of the institution or being assigned to teach subjects that is not lecturer's qualifications.

Fourth, the dichotomy between academic soldier and field soldier. The perception in the end affected the focus of development of educational institution. Lecturers and leaders of this institution only used defense educational institutions as stepping stone to gain strategic and higher rank.

Reflecting on emphasis of Civil-Military Integration on education in the defense institution with five stages as stipulated above and practices that threaten deviations inside civil-military integration educational scheme, there are six items should be noted for civil-military integration education scheme to work well: First, characteristics of professional armed forces should not be lost. It should be underlined that the civil-military integration is needed in the field of education development so the military able to respond complex security threats. Therefore it is difficult to imagine if professional military characteristics in education institution is lost when the development of defense educational institution is success.

Second, scientific approaches taught in the institution must integrate the role and function of the military with the dynamics of social-community. It should be underlined that the desire of military institutions of to study various scientific fields is not to reactivate the Dual Function, but as part of a response to the growing traditional and non-traditional security threats. So, paradigmatic analysis is performed as respond to more comprehensive and thorough process to understand more on the existing problems.

Third, supporting roles and functions of the military, not the other way around. It is important to underline that the development of educational defense institutions with the civil integration scheme must strengthen the role and function of the military in a professional manner and not vice versa. Stimulation built by civilians is to improve the role and function of the military effectively so that the professionalism of the soldiers can be realized.

Fourth, the role of civil gradually will be reduced so that the capacity is just supporting, not primary. This emphasizes the need for the defense institution to take advantage of the existing human resources in order to approach the qualification and competency required in accordance with the national education system.

Fifth, capacity of the lecturer is a must, not only military career background. Discrepancies on the need of defense educational development became obstacles and problems that must be solved together. The assumption that educational institution is a burden for defense structures and only become shortcut to accommodate a number of human resources can not be accommodated within the existing organizational structure, should be gradually eliminated. Approaches of professionalism with qualification gradually adjusted to the national education system, should be applied to ensure the quality of graduates from defense education is equivalent to graduates from national education system.

Sixth, the Recruitment process of lecturers. There are three sources of recruitment for lecturers, the active officers, which will gradually choose to retire from service, retired officers with good experience and academic qualifications, and civilian who are parts of the integrated civil-military system. Active officer who wants to become lecturer with appropriate qualifications and competence will be asked to choose whether to focus on teaching or active as a military officer. This needs to be done gradually so that the characteristics of the scientific and educational process can be continuously carried out.

While the source of retired officers also needs to be underlined to refer to the competence and qualifications required for defense educational institutions. It should be considered that recruiting retired officers as reward for their long service in military institutions must gradually be reduced. Until the time conditioned a number of officers who wanted to continue his service to the educational institutions of defense, either through early retirement or after the retirement. As for purely civilian, educational institutions should also have professional lecturers appointed permanently to strengthen the competency and qualification of human resources according to the needs of national education system.

4. Conclusion

Civil-Military Integration (CMI) in the development of military and defense education requires a number of prerequisites created in the process to run synergistically with each other. Five levels of CMI in the field of education should be based at least on five issues: quality of human resources, infrastructure, education, curriculum, integrated national education system and political policy to establish defense educational institution. This paper also concludes that the CMI as part of a variant of Civil-Military Relations (CMR) provides a

perspective that the development of education in the military and defense can not simply adopt the system and pattern education applied in civilian educational institutions, but requires integration to reinforce and confirm characteristics and patterns of education in professional military institution without losing the distinctiveness of defense education itself.

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Note 5. A university encouraging graduates of National Defense University (UNHAN) to enclose undergraduate certificate and score sheet is Universitas Indonesia (UI). Other universities may have different policy by accepting post-graduates from UNHAN to continue their doctoral program. Some of them are University of Padjadjaran (UNPAD), Bandung, State University of Jakarta (UNJ), and University of Gajah Mada, Yogyakarta (UGM).

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Note 13. Inspired by CMI in strategic industries, then summarized and translated personally by author. The meaning and content is fully author's responsibility.

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Analyzing the Effect of the Senior Management's Support on the Relationship between Factors Affecting and Employees' Performance in the Al-Zawiya University of Libya

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Abstract

This study aims to test the influence of the senior management's support as a moderating variable on the relationship between the independent factors (Training, Empowerment, Motivation and Communication) and the dependent variable (Performance of Employees). (SEM-AMOS) is used to test the impact of the moderating variable. Where it is depended on the method of sampling or analysis of what is known as multiple-groups analysis. The paragraphs of the senior management's support variable are collected and divided into two groups according to the mean of the total paragraphs. In addition, according to the relative weights given to the paragraphs of the questionnaire, using a five- point's Likert scale: 1= strongly disagree to 5 = strongly agree. The first group consisted of the grades less than the mean and it is considered as the group which is non-supporters of the existence of support. While the second group consisted of the grades higher than the mean and considered as the group which is a supporter of the existence of support. The study found that the model of study in the presence of the support of the senior management's is appropriate for the second group and inappropriate in light of the lack of support by the senior management's support for the first group.

Keywords: Training, Empowerment, Motivation, Communication, Performance of Employees, Senior Management's Support

1. Introduction

Mudor and Tookon (2011) pointed out that every organization seeks success especially due to today's competitive environment. Regardless of their size and market, organizations strive to maintain the best employees and acknowledge their important role and influence on the efficiency of such organizations. However, it is important for organizations to establish a strong and positive relationship with the employees and guide them in fulfilling their work tasks and achieving job satisfaction (Fisher, 2012). In achieving such goals and objectives, organizations employ various strategies for competing in highly competitive markets and increasing their performance. Nevertheless, only a few organizations take into consideration human capital as the main asset that can either achieve or fail to achieve such desired success of organizations. If not managed properly, humans can cause failure of the organization and high staff turnover (Fisher, 2012). As emphasized by Ran (2009), it is necessary for employers to motivate and enable their employees to achieve a high level of job satisfaction. Yet, development of such job satisfaction and motivation-oriented programs and policies is a time and money-consuming task. It is easy to justify policies related to employees as long as there is understanding of the value of work-related motivation among employers. However, organizations may not be able to achieve their goals and the desired success if there is a lack of job satisfaction and motivation among employees.

There are diverse needs for people which are constantly competing with each other. Such needs are also variable with an individual. Each individual has a different mixture and strength of needs, and while some people may strive for achievement, others may focus on security. It is argued that managers'/ supervisors' understanding, prediction, and control of employees' behavior will enable them to have better knowledge of what their employees want from their jobs. Therefore, managers'/ supervisors' understanding of what and how to motivate their employees rather than assuming this becomes a matter of importance (Gurland & Lam, 2008). It is also indicated that top management plays an important role in fulfilling synergy between the activities and operations

of the organization. This is because of the importance of top management as a source for achieving organizational goals. It is also responsible for the understanding of the organizational principles and values of its employees. It generates synergy and compatibility between them (Manna, 2012; Turban, 2010, p. 236). With the speedy technological advances and information technology today, the structure of organizations appears to have a crucial role in the success of the various organizations (Chen, 2007). However, this demands to develop and establishing an effective organizational structure which is capable of providing the necessary conditions for achieving the organizational goals and success, satisfying employees' needs, empowering them or making them autonomous and motivating them to be initiative and creative (Ifinedo, 2007). Such empowerment of employees is expected to make them active participants and contributors to the goals and success of organizations since it coordinates and integrates employees at the individual and group levels. It also assists in achieving synergy and consistency and creates the conditions that are necessary for active participation self-fulfillment and accomplishment. This also enables employees to feel a strong sense of belonging to and feel committed to their organizations (Wiengarten et al., 2013). The support of top management to employees is regarded as an important and critical issue to achieve and maintain a competitive advantage. The role of top management is constantly recognized in identification and exploitation of opportunities and in the process of making decisions that affect innovation, thus adding value to the businesses (Elenkov et al., 2005; Ireland & Hitt, 1999; Finkelstein & Hambrick, 1996). Previous researchers have paid considerable attention to the top management-innovation interaction (West et al., 2003; Kim et al., 2012; Sharma & Rai, 2003). Results of many previous related studies are indicative of the positive impact of top management on innovation. Moreover, such studies reported that innovation is positively related or correlated with organizational performance (Bowen & Steel 2010; Ryan & Tipu, 2013). Yet, in the context of developing countries, top management is still challenged by the dynamics of working conditions, and innovation is still needed as a means that can contribute to achieving a sustainable competitive advantage for survival in the market (Perry-Smith, 2006; Puranam et al., 2006). Therefore, the aim of the present study was to examine the role of the support of Senior Management in reinforcing the relationship among these variables: Training, Empowerment, Motivation, Communication, and Performance of Employees.

2. Issue

Although Top management plays an important role in enhancing the performance of employees, and making decisions that enhance the creation and execution of knowledge successfully (Van de Ven, 1993; Storey, 2000; Aragón-Correa et al., 2007) and organizations, many organizations in developing countries such as Libya do not pay much attention to human resource management in order to ensure such effective performance of their employees. There is little-related research on human resource management in Arab countries in general and Libya particular in comparison to the wide number of researches in Europe, America, and different parts of Asian continents (Esmael, 2016). Moreover, these few studies in the Libyan context focused their investigation on factors affecting the Employees' Performance at work place such as Training, Empowerment, Motivation, communication while ignoring the importance of as far as the authors of this study are aware, there are no empirical studies examining the Libya investigating the moderating effect of senior management, which is the subject of this study. In order to bridge the above-mentioned gap in previous research.

3. The Objective of the Study

There are two purposes of this research. First, is aim to provide a better understanding of the factors that will affect the employee performance in the Al-Zawiya University of Libya. Secondly is to investigate the moderating effect of the senior management between Training, Empowerment, Motivation, communication and employees' performance.

4. Significance of the Study

The purpose of this study is to investigate on factors that affecting employee performance in the Al-Zawiya University of Libya and especially in the presence of support from senior management. in These days, University administration should concern about the factors that affecting employee performance due to it will affect the entire organization as well, a successful organization is regarding on how an employee perform their job, and what factor will affect an employee performance in the organization.

5. Theoretical Background and Hypotheses

5.1 Employees' Performance

As defined by Brown (2008), performance refers to how a given individual performs certain tasks and how he/she views such task completion. In addition, Hersen (2004) defined it from a different perspective that takes into account quantifying employee's work-related output or outcomes, including a number of sales, numbers sold

as well his/her behavioral dimension, such as work-oriented communication, making decisions and skills for solving problems. According to Baldwin (2008), job performance is defined as a process of making actions in an efficient and effective manner in order to achieve the goals of the job. This means that employees, in performing their work, employ their abilities, skills, capabilities, previous experience and knowledge to carry out the task demanded or requested by their subordinate in effectively and efficiently (Kirkpatrick, 2006).

5.2 Training and Development

In the field of human resource management, training is recognized as an important domain that focuses on how to foster the organizational activity through empowering employees at the individual and group levels in a given organization to achieve better performance. Previous research highlighted several labels used for training, including employee development, human resource development, and learning and development (Harrison, 2005). In terms of defining it, training is a process that aims at changing individuals' knowledge, skills, attitudes, and/or behavior (De Cenzo & Robbins, 1998). This definition underlies the role of training in designing and supporting learning activities which lead to achieving the desired level of performance. On the other hand, development is a concept which typically portrays the growth at the long run, constant learning and directing attention more on the potential needs of individuals in the future. Thus, whereas the focus of training is the duties or responsibilities of a given job, the focus of development is on the future job responsibilities. Although the two concepts are distinguished from each other, sometimes they are used interchangeably, and even they are given one label as performance consulting that places an emphasis on either the outcome of training and development or on the way humans perform a given task as a result of their learning (Robinson, 1995). In brief, training can be defined as an educational process that aims at empowering humans with new information, enabling them to re-learn and reinforce existing knowledge and skills, and most importantly, making them able to think of new ideas and alternatives as to enhance their work performance. Efficient training provides employees with current, related and valuable information that assists them on what and how to develop their skills and behaviors which, in turns, will benefit their workplace (Montana & Charnov, 2000).

Creating a positive long-term impact on employees is the main aim of training. In other words, training aims to create certain actions and promote trainees' sense of commitment through the integration of what they have learnt in the training into their work. Thus, training can be provided for the purpose of developing skills of individuals and groups. Generally, the process of training encompasses what and how to present and learn, especially content as a way to enable trainees to enhance their skills and behaviors pertinent to their work (Karlán & Valdivia, 2011). It reflects what informal efforts constantly made by organizations to enhance employees' performance and self-fulfillment using various educational methods and programmes. In the modern workplace, such training is introduced in the form of many practical applications that vary from instruction in highly specific job skills to long-term professional development. Recently, training and development have emerged as a function of formal business, an integral element of strategy, and a recognized profession that is framed or grounded on distinct theories and methodologies

5.3 Empowerment

Originally, the term of empowerment means authorizing or giving (Tulloch, 1993). In discussing its meaning, Wallach & Mueller, (2006) concluded that empowerment means enabling employees or providing them with the power to take decisions and rendering them responsible for the results. In addition, Besides, Boehm, A., & Staples (2002) claimed that, with proper training, power makes transformation of control and conversion of the entire organization or firm into a model for empowerment model. Through empowerment, entrusted employees can access a certain degree of authority and become able to take decisions in accomplishing their work tasks. In other words, such employees become somehow free to employ any methods or ideas that they see efficient in completing tasks. Many previous related studies concluded that as a well-known managerial concept, empowerment of employees plays a potential role in providing several benefits, including promoting their organizational performance, strengthening their task commitment, creating among them higher levels of initiative in taking roles and responsibilities, providing them with opportunities for more innovation and learning, enabling them to be highly satisfied with their work and fostering the organization culture (Michal, 2011).

5.4 Motivation

In defining motivation, DeCenzo and Robbins (1996) stated that it is the individual's desire or willingness to perform a given task and the ability to meet some needs under certain conditions. Regardless of the size, today, many organizations or enterprises in different sectors are widely engaged in practicing employees' motivation. This indicates that such enterprises are highly aware of the role of motivating their employees in achieving the desired organizational goals. Thus, those motivated employees who are self-satisfied, self-fulfilled and

committed are expected to be more capable of producing a better quality of work and they oblige to the organizations' policies, which will extensively materialize efficiencies and competitive advantages. Motivation fosters employees' engagement in their work by making them feel that what they do is more meaningful and interesting, and it increases their productivity and enhances their subsequent job performance (Kamery, 2004; Ekerman, 2006). Regarding its importance, employee motivation has been documented in previous research as one of the most important and essential factors in employee's self-achievement and ultimately, in the achievement of the organizational targets and goals (Berman et al., 2010). As asserted by Ololube (2006), work motivation, regardless of whether it is intrinsic or extrinsic, is necessary for workers as they feel that they work for a fundamental reason life. Thus, it reflects certain complicated forces and needs that empower the individual to carry out a given task (Shulze & Steyn, 2003). As an essential component of business operations, motivation also plays an important role in achieving employees' job satisfaction, creating a sense of pride among them and making them more committed to their work, thus improving their performance and productivity (Linz et al., 2006). Similarly, for Islamic organizations, motivation is useful for investigating employees' performance, although the findings may be equivocal.

5.5 Communication

Communication is defined as the process of contacting and interacting with individuals or groups for the purpose of information delivery and sharing as well as meanings and understanding (Fisher, 1980). As a predicator of employees' success, communication competency has been given by mixed opinions and views from several professionals (Ryan & Sackett, 1987). Moreover, communication is recognized an important element in the success of any organization since it enables such organizations to have an influence on how to achieve their goals as evidenced by the link between communication and work productivity (Camden & Witt, 1983; Papa & Tracy, 1987; Snyder & Morris, 1984). Moreover, efficient communication enables a given company to well coordinate its teams or units, whereas lack of such communication can cause in running business operations or lead to failure of the company and its employees to achieve the goals. It has been argued that people engaging in communication should be skilled and able to convey their ideas. Otherwise, there might be a misunderstanding of what needs to be conveyed. However, this is dependent on the facilities in organizations and managers' actions to see the acceptability of information in order to have an accurate delivery of such information. As an important key element, communication enables managers to exchange feedback with employees, which has an effect on employees' work motivation. This is relevant to the circumstances that are currently faced by the employees, including the right time of delivering such information. Hence, their performance depends on their communication with managers and the messages received by them. Improving employees' job performance requires managers' initiatives to provide their employees with opportunities to learn new skills by communicating with them.

5.6 Senior Management's Support

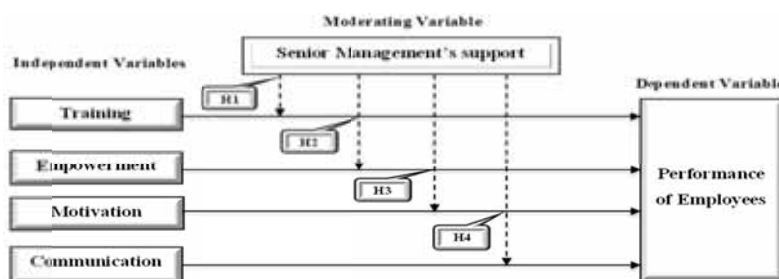


Figure 1. Conceptual model

His support of Senior Management is necessary to develop innovations through an appropriate work environment and to take appropriate decisions that facilitate successful knowledge development and implementation or application (Van de Ven, 1993; Storey, 2000; Aragón-Correa et al., 2007). Ideal top management is the one that is deeply aware of employees' needs and that provides them with an incentive as a means to motivate and encouraging them to innovate in carrying out work related tasks and solving work problems. It also assists employees to be able to address their needs for empowerment, personality improvement, achievement, and enhance self-efficacy (Jung et al., 2003; Ryan & Tipu, 2013; Abrell et al., 2011; Taylor et al., 2009). As pointed out by many previous researchers, top management plays an important role in the outcomes of organizations (Cho & Hambrick, 2006; Kor, 2003; Stam & Elfring, 2008; Smith & Tushman, 2005; Wu et al.,

2005; Oke et al., 2009; Chahine & Goergen, 2013; Agbim et al., 2013). According to other researchers, the support of top management support is a key element in affecting adoption of innovative activities in organizations (Elenkov et al., 2005; Makri & Scandura, 2010; Denti, 2012; Kim et al., 2012; Hoang et al., 2009; Al-Refaie et al., 2011). In this study, the following research hypotheses are relevant to senior management's support variable as displayed in Figure 1.

6. Hypotheses

6.1 Supportive Senior Management reinforces the relationship between Training and Employees' Performance in the Al-Zawiya University of Libya.

6.2 Supportive Senior Management reinforces the relationship between Empowerment and Employees' Performance in the Al-Zawiya University of Libya.

6.3 Supportive Senior Management reinforces the relationship between Motivation and Employees' Performance in the Al-Zawiya University of Libya.

6.4 Supportive Senior Management reinforces the relationship between Communication and Employees' Performance in the Al-Zawiya University of Libya.

7. Data Collection and Sampling Design

A questionnaire was used to acquire empirical data related to each of the study variables. The questionnaire was distributed to Employees in the Al-Zawiya University of Libya. Total of (500) questionnaires were distributed. (407) questionnaires were returned, of which (361) were valid, which represents 72.2% response rate. The data was collected over a period of time from (January to April 2016).

8. Research Methodology

8.1 Research Design

The present study used a quantitative research design, specifically the descriptive survey design. This is because such design accurately and objectively describes the characteristics of a situation or phenomenon being investigated in a given study. It provides a description of the variables in a particular situation and, sometimes, the relationship among these variables rather than focusing on the cause-and-effect relationships (Johnson & Christensen, 2012:366). Thus, this study used a questionnaire which was developed from previous research in order to measure the relationships among the investigated variables. As an approach to the easy collection of data, the survey used in this study encompasses six main Variables: Training, Empowerment, Motivation, Communication, Performance of Employees, and Senior Management's Support. These Variables were adopted from the literature review of previous related research from these studies (Tavitiyaman, 1996; Ronah, 2015; Chng et al., 2014; Njambi, 2014; Yasir, 2011; Neelam et al., 2014). Thus, the entire survey used in this study comprises 24 items which had to be responded to by the respondents using a five-point's Likert scale: 1= strongly disagree to 5 = strongly agree. Before distributing the survey to the participants, it was translated into Arabic because the participants cannot read in English.

9. Statistical Analysis Used in this Study

9.1 Model Fit

The fit of the measurement model was assessed using the following statistics and indices: Chi-square (2), the ratio of the Chi-square to the degrees of freedom (DF), Goodness-of-fit index (CFI), Root-mean-square residual and Root Mean Squared Error (RMSEA). Chi-square/df values less than or equals 3 indicates a good model fit, and between 2.0 and 5.0 is acceptable level (Hair et al., 2010; Schumacker and Lomax, 2004). CFI values should be greater than 0.9 (Wang & Wang, 2012; Hair et al., 2010). RMSEA values less than 0.10 indicate good fit (Devaraj et al., 2002). The goodness of fit indices of the measurement model is presented in (table 3); according to these results we can infer that the measurement model was reasonably fitted to the data set.

9.2 Reliability and Construct Validity

According to Hair, Black, Babin, Anderson (2010) the employment of factor loading composite reliability (CR) and average variance extracted (AVE) to determine the convergent validity if it equals to or greater than 0.5 (≥ 0.5) and the composite reliability equals to or greater than 0.6 (≥ 0.6) if were recommended by Sekaran and Bougie, (2010). Also, (AVE) reading values should be greater than 0.5 (≥ 0.5) (Fornel & Larker, 1981).

10. Analyzing the Impact of the Senior Management's Support

In this study the hypotheses moderating variable (Senior Management's support) by using (Multiple-Groups analysis by Amos) method and through structural equation modeling. Where the respondents' answers will be

divided into two groups (the first group is not a supporter of the support, the second group is a supporter of the support) depending on the mean of the total paragraphs and according to the weights given to the paragraphs of the questionnaire. The comparison between the indicators of the Conceptual model it by using the group which is not supporter of the Senior Management’s support (first group) and the indicators of the Conceptual model it by using the group which is supporter of the Senior Management’s support (second group). If there are differences in the values of these indicators between the two groups, it indicates the presence of the influence of the variable of the Senior Management’s support on the tracks, and relationships between factors affecting and performance of employees.

11. Results

11.1 Descriptive Statistics for the Senior Management’s Support as Moderating Variable

The mean of the Senior Management’s support variable was (60.2770) with a standard deviation of (12.756), and the minimum was (26) and the top end (78). Depending on the mean as a key factor and taking into consideration the distribution of the sample, the sample is divided into two groups. The first group is not supporter of the senior management’s support which is from (26) to (61) and numbered 130 and by (36%), while the second group is supporter of the senior management’s support which is from (62) to (78) and numbered 231 and by (64%), as shown in table (1). We conclude that there is a rapprochement between the two groups. The first group (low-group) consisted of the grades less than the mean and it is considered as the group which is not a supporter of the existence of support. While the second group (high-group) consisted of the grades higher than the mean and considered as the group which is a supporter of the existence of support. It is happened according to the weights given for the paragraphs of the questionnaire strongly agree (5), agree (4), neutral (3), disagree (2), Strongly Disagree (1).

Table 1. Descriptive statistics for the moderating variable (the senior management’s support)

No	Moderating	Groups Level of Variable	Frequency	Percent	Mean	Std.
1	The senior Management’s support	First group not a supporter of the senior management’s support	130	36%	60.27	12.75
		Second group a supporter of the senior management’s support	231	64%		
		Total	361	100.0		

11.2 Construct Validity and Reliability of the Senior Management’s Support

The results of the goodness-of-fit of the final revised of the senior management’s support model showed that normed chi- square (CMIN/DF) was (3.311) the CFI was (0.975) and RMSEA was (0.080).In addition to the lodging for the parameters factor ranged from 0.61 to 0.91, with all parameters were above 0.5 (≥ 0.5). The reliability was greater than 0.7 (≥ 0.7), it ranged from 0. 943 to 0. 953, the (AVE) reading was 0.62 where the value was greater than 0.5 (≥ 0.5). Consequently, all results fulfilled the (AVE), and the reliability discriminant validity of the model. In general, the measurement model of the senior management’s support model was fit and fulfilled the construct as depicted in Table (2). Figure (2) shows the adequacy of the final revised of the senior management’s support.

Table 2. Construct Validity and Reliability of the senior management’s support model

Items	Reliability	Estimate	S. E.	C. R.	P	Loading	SMC	AVE
M1	0.949	0.7208	0.041	17.392	***	0.72	0.52	0.62
M2	0.947	0.7772	0.038	20.101	***	0.78	0.61	-
M3	0.948	0.7977	0.044	18.101	***	0.74	0.55	-
M4	0.945	0.9101	0.037	24.113	***	0.86	0.73	-
M5	0.943	1.0000	-	-	-	0.91	0.83	-
M6	0.946	0.8718	0.036	24.235	***	0.80	0.65	-
M7	0.953	0.5353	0.040	13.345	***	0.61	0.37	-
M8	0.951	0.6079	0.036	16.766	***	0.71	0.50	-
M9	0.945	0.8258	0.036	22.350	***	0.89	0.80	-
M10	0.945	0.8263	0.033	24.644	***	0.87	0.75	-
M11	0.945	0.8655	0.034	24.889	***	0.87	0.75	-

S.E. Standard Error; C.R.: Critical Ratio, P: Probability, SMC: Squared Multiple Correlations. AVE: Average Variance Extracted

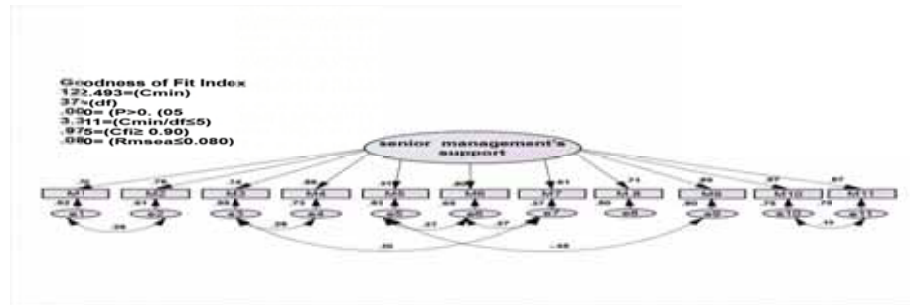


Figure 2. CFA of the senior management's support model

11.3 Construct Validity and Reliability of the Conceptual Model without the Division of Groups

Factor loadings mean that the correlations between the factors and the items of the questionnaire that represent these factor (e.g. the correlation between the Training and the items of this factor). The value of such relation or correlation should be at least (0.50). It is evident from the outline of the model in Figure (3) and Table (3) that the saturation of the factor loadings or correlations between the variables as embodied in the model through the rectangles and the underlying factors as manifested in circles was high and exceeded (0.50). These are usually called the saturation or loadings or parameter estimates in the table which ranged from the least value (0.58) between the (Communication) and its third item (CO.3) to the highest value (0.90) between the Training and its item (TR.2) in the model. Moreover, the (CR) for each relation between the underlying factors and variables representing it was higher than (1.964) for all relations, which means that such values are significant at (0.05). Since the (CR) is higher than (1.964), the levels of such relations are statically significant. Such results confirm that there are correlations or relations between the five factors.

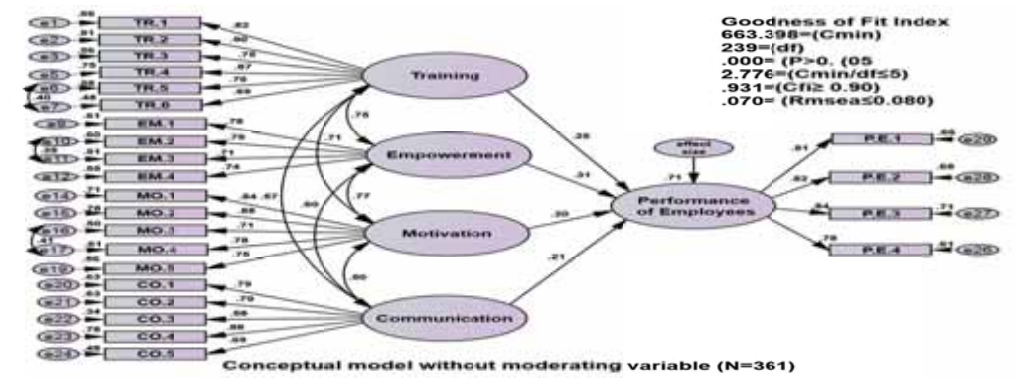


Figure 3. (Structural model N=361).

In addition, the reliability was greater than 0.7 (≥ 0.7), it ranged from 0.951 to 0.954. , the AVE reading were for factors between 0.57 to 0.67 where the value was greater than 0.5 (≥ 0.5). Consequently, all results fulfilled the AVE, and the reliability discriminant validity of the model. In general, the measurement model of the Conceptual model without moderating variable was fit and fulfilled the construct as depicted in Table (3).

Table 3. Construct validity and Reliability of the Conceptual model without moderating variable

Items	Variables	Reliability	Estimate	S. E.	C. R.	P	Loading	AVE
TR.1	Training	0.951	0.9661	0.0463	20.8591	***	0.82	0.64
TR.2	Training	0.951	1.0000	-	-	-	0.90	-
TR.3	Training	0.951	0.8464	0.0472	17.9216	***	0.75	-
TR.4	Training	0.951	0.9420	0.0399	23.5825	***	0.87	-
TR.5	Training	0.951	0.8347	0.0451	18.5060	***	0.76	-
TR.6	Training	0.952	0.7701	0.0488	15.7664	***	0.69	-
EM.1	Empowerment	0.951	1.0192	0.0692	14.7383	***	0.78	0.57
EM.2	Empowerment	0.952	1.0000	-	-	-	0.78	-

EM.3	Empowerment	0.952	0.9319	0.0538	17.3343	***	0.71	-
EM.4	Empowerment	0.952	0.9714	0.0692	14.0390	***	0.74	-
MO.1	Motivation	0.951	0.9376	0.0456	20.5580	***	0.84	0.63
MO.2	Motivation	0.951	1.0000	-	-	-	0.88	-
MO.3	Motivation	0.952	0.7946	0.0512	15.5230	***	0.71	-
MO.4	Motivation	0.952	0.9131	0.0504	18.1270	***	0.78	-
MO.5	Motivation	0.951	0.8417	0.0492	17.1010	***	0.75	-
CO.1	Communication	0.953	0.8968	0.0498	18.0072	***	0.79	0.57
CO.2	Communication	0.953	0.8529	0.0474	18.0031	***	0.79	-
CO.3	Communication	0.954	0.6791	0.0579	11.7387	***	0.58	-
CO.4	Communication	0.952	1.0000	-	-	-	0.88	-
CO.5	Communication	0.952	0.7703	0.0518	14.8811	***	0.69	-
PE.1	Performance	0.951	0.9174	0.0559	16.4130	***	0.78	0.67
PE.2	Performance	0.951	0.9793	0.0536	18.2629	***	0.84	-
PE.3	Performance	0.951	0.9969	0.0564	17.6638	***	0.82	-
PE.4	Performance	0.951	1.0000	-	-	-	0.81	-

S.E. Standard Error, C.R.: Critical Ratio, P: Probability, SMC: Squared Multiple Correlations. AVE: Average Variance Extracted

11.4 Testing the Efficiency of the Conceptual Model between the Two Groups (Supporter of the Senior Management’s Support, Not Supporter of the Senior Management’s Support)

Table (4) reveals that the indicators of the Conceptual model for the first group which is the not supporter of the senior management’s support and it did not correspond the specified criteria. And the value of the (CFI) was (0.892) which was less than the value of the test (0.90) and this assures that the group which does not support the senior management’s support did not correspond with the model. And the value of (RMSEA) was (0.892) and big than the standard test (0.080). In the same table, it is clear that the indicators of the Conceptual model for the second group which supports the senior management’s support and it correspond the specified criteria. And the value of (CFI) was (0.927) which was higher than the value of the test (0.90). The value of the Root Mean Square Error of Approximation (RMSEA) was (0.0730) and less than the standard test (0.080).

Table 4. The Values of the Indicators of the Correspondence the Conceptual model between the two Groups (supporter of the senior management’s support, not supporter of the senior management’s support)

Parity Indicators	Standard Model		Differences in the indicators between the two models	Function value on the existence of differences in the moderating variable
	Pro-support group model 4	Non-pro-support group model 5		
	the value of the index	the value of the index		
Cmin	531.708	483.664	126.527	more than Chi-square probabilities
df	239	239	0	-
P	0.000	0.000	0.000	-
Cmin/Df	2.225	2.024	0.201	-
CFI	0.927	0.892	0.035	more than (0.01)
RMSEA	0.073	0.089	0.016	more than (0.015)

Based on the data in Table (4), there are differences between the two models in the (CFI) which was (0.035) and it was larger of the specified standard (0.01). As well as the differences between the two models in (RMSEA) index was (0.016) which exceeded the benchmark (0.015) (Barbara, 2010). This confirms the existence of differences in the model of the Conceptual model between the first and second group. Also, this indicates that the model of the Conceptual model was very appropriate for the second group (the supporter of the senior management’s support). But the result of the first group (not a supporter of the senior management’s support) was inappropriate for the model. This assures that the relationship between the independent factors model (Training, Empowerment, Motivation and Communication) and the dependent factor (Performance of Employees) are better in the supporter group than the non-supporter group, and we can test the hypotheses of the study.

12. Testing the Main Hypotheses of the Moderating Variable (Senior Management’s Support)

12.1 (H1): Supportive Senior Management reinforces the relationship between training and Employees’ Performance in the al-Zawiya university of Libya.

By looking at Table (5), Figure (4) and Figure (5) it is clear to us the existence of differences in the relationship between the Training and the Employees’ Performance between the two groups. It is clear that the supporter group (second) better than the non-supporter group (first) in terms of Estimate values (0.2505 -0.3338) and (SE) (0.067 - 0.438) and (CR) value (3.704- 0.761) and the level of significance (0.000- 0.4462). This confirms the strength and enhances the relationship between the two variables in the presence of senior management’s support.

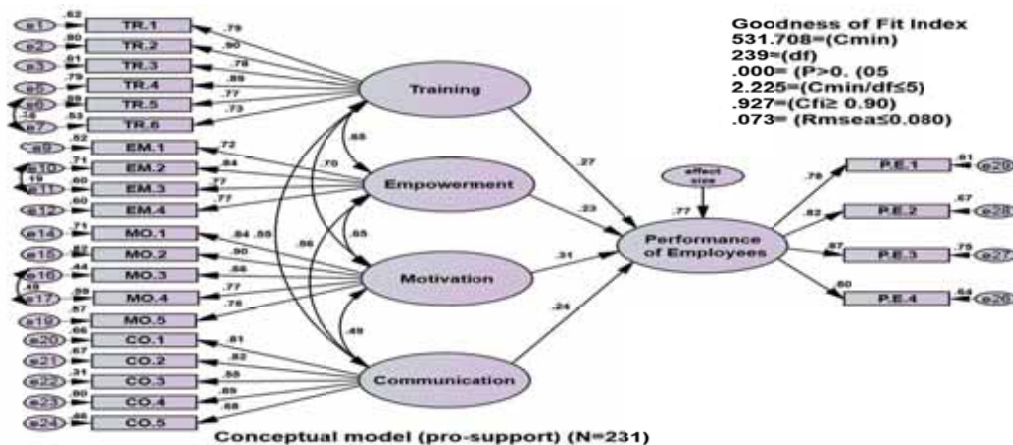


Figure 4. structural model (Pro-support group N=231)

12.2 (H2): Supportive senior management reinforces the relationship between empowerment and Employees’ Performance in the al-Zawiya university of Libya.

The results presented in Table (5), Figure (4) and Figure (5) it is clear to us the existence of differences in the relationship between Empowerment and Employees’ Performance between the two groups. It is clear that the supporter group (second) better than the non-supporter group (second) in terms of Estimate values (0.2223 -1.9976) and (SE) (0.069 - 1.276) and (CR) value (3.220- 1.564) and the level of significance (0.0013- 0.1176). This confirms the strength and enhances the relationship between the Empowerment and Employees’ Performance in the presence of senior management’s support.

12.3 (H3): Supportive senior management reinforces the relationship between motivation and Employees’ Performance in the al-Zawiya university of Libya.

Results are shown in Table (5), Figure (4) and Figure (5), the relationship between work motivation and employees’ performance differs in the two groups of participants. In other words, the Estimate values (0.2805 -0.6251) and (SE) (0.066 - 0.668) and (CR) value (4.248-0.934) and the level of significance (0.000- 0.3498) are better in the supporter group (second) better than the non-supporter group (second) in terms of. Such result is indicative of the strong relationship between motivation and Employees’ Performance in the presence of senior management’s support.

12.4 (H4): Supportive senior management reinforces the relationship between communication and Employees’ Performance in the al-Zawiya university of Libya.

The Fourth hypothesis supports the evidence of the positive effect of senior management’s support on the relationship between the communication and Employees’ Performance in the Al-Zawiya University of Libya. In other words, there is a difference between the supporter group and the non-supporter group, and the correlation values of the relationship in the second group are higher than the values of the first group. The results shown in Table (5), Figure (4) and Figure (5) indicate that the supporter group (second) is better than the non-supporter group (first) in terms of Estimate values (0.2095-0.1499) and (SE) (0.051- 0.131) and (CR) value (4.059-1.142) and the level of significance (0.000- 0.2533). Thus, the results suggest that support of senior management contributes to the relationship between communication and performance of employees.

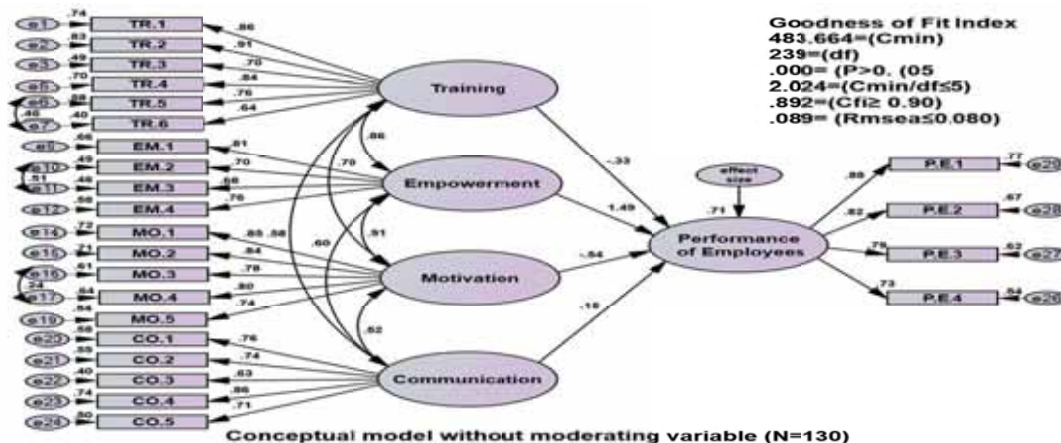


Figure 5. Structural model (Non-Pro-support group N=130)

Table 5. Standard and transactions for conceptual model between the two groups

Independent variable	Path	Dependent variable	E	S.E	C.R	P	Effect	Hypothesis Support
Training	--- →	Performance						
<i>supporter of the senior management's support</i>			0.2505	0.067	3.704	***	0.27	Asserted
<i>Not supporter of the senior management's support</i>			-0.3338	0.438	-0.761	0.4462	-0.33	
Empowerment	--- →	Performance						
<i>supporter of the senior management's support</i>			0.2223	0.069	3.220	0.0013	0.23	Asserted
<i>Not supporter of the senior management's support</i>			1.9976	1.276	1.564	0.1176	1.49	
Motivation	--- →	Performance						
<i>supporter of the senior management's support</i>			0.2805	0.066	4.248	***	0.31	Asserted
<i>Not supporter of the senior management's support</i>			-0.6251	0.668	-0.934	0.3498	-0.54	
Communication	--- →	Performance						
<i>supporter of the senior management's support</i>			0.2095	0.051	4.059	***	0.24	Asserted
<i>not supporter of the senior management's support</i>			0.1499	0.131	1.142	0.2533	0.15	

13. Conclusion

The present study tested the role of the senior management as a supporter for the performance of employees; this study was conducted on the Employees in the Al-Zawiya University of Libya. Factor analysis assertive was used for the senior management variable and the results showed the appropriateness of the model according to the indicators of the structural equation modeling (SEM). The impact of the influential variable (the senior management) was measured by using the analysis of samples, or what is known as a multiple-groups approach, where the subjects were divided into two groups, depending on the mean of the total paragraphs. The group which is less than the mean is not a supporter (the first group). And the group which is higher than the mean is the supporter of the Senior Management's support (the second group). The study found that the Conceptual model in the presence of the support of the senior management is appropriate for the second group and inappropriate in light of the lack of support for the senior management for the first group. The findings of the study confirmed the important role of the Senior Management's support as factor which affects positively the Employees' Performance in the Al-Zawiya University of Libya and this results also agreed with previous studies, such as (Van de Ven, 1993; Storey, 2000; Aragón-Correa et al., 2007; Jung et al., 2003; Ryan & Tipu, 2013; Abrell et al., 2011; Taylor et al., 2009; Cho & Hambrick, 2006; Kor, 2003; Stam & Elfring, 2008; Smith & Tushman, 2005; Wu et al., 2005; Oke et al., 2009; Chahine & Goergen, 2013; Agbim et al., 2013). Finally, the contribution of the present study is in testing the impact of the role of the Senior Management's support in supporting the Employees' Performance in the Al-Zawiya University of Libya.

14. The Study Contribution, Implications, and Limitations

The results of the present study show that while, the support of senior management positively affects employees' job performance, training, empowerment, motivation, and communication assist in modifying top employees' behaviors to become more efficient in performing their work (Ryan, and Tipu, 2013; Abrell et al., 2011; Taylor et

al., 2009). Hence, the availability of support of top management enables organizations to adapt to environmental factors, constraints, and take an advantage of the available opportunities. As an important key element for the long-term existence of organizations, innovation requires careful selection of directors who have characteristics of good leadership. Moreover, managers should be well trained on what and how to how to adopt effective methods of management and leadership while taking into account managers' salaries. This is because as highlighted in previous research, rewarding top management is important in fostering innovation and supporting such innovational efforts in managing their companies (Makri et al., 2006; Makri, and Scandura, 2010). Based on the results of the study, top management is an important key in innovation generation or creation since it offers an appropriate environment and facilitates accurate decisions that enhance the generation and application of knowledge. The needs for innovation assist individuals in the organization to make efforts in better learning of new knowledge through continuous engagement in teamwork. The present study provided evidence of the important role of the synergy between top management and employees in making the organization more adaptable. Senior management's support has a significant role in easing the processes of communication and coordination processes between different functions in organizations, thus achieving the benefits at the organizational and individual levels. It also results in changing individuals' (administrators and employees) lives for better. However, training employees for the purpose of improving their knowledge, skills, and experience becomes necessary. In addition, top management should support productivity by providing a new working environment and encouraging work atmosphere for employees. Organizational structures which are less formal and less cartelized provide employees with the opportunity to be innovative and creative in their work (Chen, 2007). Senior Management's Support also assists both organizations and individuals to pursue their survival and be updated with the latest knowledge and development around them. The study contributes to earlier research through the tool for measuring the impact of top management support through the relationship between senior management and employees on innovation in developing countries. This will hopefully be valuable for future research in this research area. Another contribution of the present study is the evidence that supports the role of the supportive senior management in reinforcing the relationship among these factors: training, empowerment, motivation, and communication and performance of employees. These results can be also useful and significant for managers of the Libyan organizations. For instance, this study is expected to make organizations abler to offer the public innovative products or services, or enhances employees' performance, thus promoting their innovative thinking and creating a learning base for innovative ideas. However, the limitation of the current study is the study sample since it was carried out only in one university in a Libyan city.

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Appendix A

Variables	Items	Paragraphs
Training and Development	TR.1	Training and development is essential for college’s employees.
	TR.2	Competency level of employees increases due to training and development.
	TR.3	Training and development reduce the stress of the employees.
	TR.4	Performance and productivity greatly depend on Training and development.
	TR.5	Training and development enhance the performance and productivity of the employees as well as of the organization.
	TR.6	Training and development reduce consumption of time and cost and increase performance and productivity.
Empowerment	EM.1	My supervisor gives more freedom and authority which can make my job easier, faster and effective.
	EM.2	The great autonomy and ability to make a decision can make my job more convenient especially for clients.
	EM.3	The power sharing among employee will help to reduce work related stress.
	EM.4	Mutual trust among employees will enhance the power and authority of the decision making.
Motivation	MO.1	I am more motivated to do my job when I feel I am recognized and appreciated for my contribution to the organization.
	MO.2	The degree of skill variety required to perform my job has an impact on my motivation.
	MO.3	How meaningful I believe my work has an influence on my motivation level.
	MO.4	The degree of trust exhibited at my work place is a determinant of my level of motivation at work.
	MO.5	I am more motivated to perform my job when I feel there is fairness of treatment at the workplace.
Communication	CO.1	I get timely communication about the decisions of the different organs in this College.
	CO.2	There is open communication in this College.
	CO.3	This College has good cross unit communication.
	CO.4	All-College meetings are always well organized.
	CO.5	The College's communication makes me identify with it or feel a vital part of it.
Employees’ Performance	PE.1	I feel dedication, seriousness, and ability to take responsibility.
	PE.2	I do my work according to specific policies and procedures.
	PE.3	I enjoy professional skill or professionalism and technical knowledge required to carry out the work efficiently.
	PE.4	I feel satisfied with the work I do in the university.
Senior Management’s Support	M1	My immediate supervisor often asks for opinions / suggestions on important issues relating to this College.
	M2	My immediate supervisor often gives me information/suggestions or feedback on important issues relating to this College.

M3	The College's where I work favors autonomy in doing tasks and making decisions.
M4	In the College's where I work, training is evaluated by participants.
M5	The College's I work for stimulates learning and application of knowledge.
M6	In the College's where I work, training needs are identified periodically.
M7	The college tries to make my job as interesting as possible.
M8	My College strongly considers my goals and values.
M9	In the College's where I work offers me a salary that is compatible with my skills, training, and education.
M10	In the College's where I work remunerates me according to the remuneration offered at either the public or private marketplace levels.
M11	In the College's where I work, there is an environment of understanding and confidence between managers and employees.

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Does Better Physical Function Make People Happier?

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Abstract

The objective of this paper is analyzing the impact of health status on the subjective well-being. The study uses the recent data from Indonesian Family Life Survey and the physical function index as a proxy for health status. Ordered Logit regression is performed to estimate the impact of the physical function on the subjective well-being. The study employs an instrumental variable approach to address the endogeneity issue of the physical function. After controlling for socioeconomic and demographic factors, it is found that the physical function has a positive effect on the subjective well-being. On average, an increase in 1 percent of an individual physical function will increase a probability of being very happy by 1.5 percent. However, this impact is decreased after including mental health on the regression model. Since the magnitude of the coefficient in IV-Ordered Logit is larger than in ordinary Ordered Logit, we interpret that there is no existence of a reversed causality. Then, it can be concluded that the physical function is a predictor for the subjective well-being.

Keywords: subjective well-being, health, physical function, ordered logit, instrumental variable

1. Introduction

Health is one of the most important aspects of human capital that is related to individual's welfare. Grossman (1972) argues that individual's stock of health determines the total amount of time individual can spend producing money earnings and commodities. Further, Bloom and Canning (2000) explain four pathways through which health affect economic prosperity. First, healthier people may be more productive since they have fewer lost workdays caused by illness. Second, healthier people have more opportunity to invest in education and receive greater return from this investment. Third, improvement in longevity induces people to save more for retirement. Finally, improvement of health condition will shape the demographic structure. The low rate of mortality will lead in decline of fertility, decline of population growth, increase of the proportion of working age and then increase of per capita income.

Empirical studies confirm that lower health status results in lower working hours (Cai et al., 2008) or lower labor force participation (Zhang et al., 2009; Garcia-Gomez et al., 2010). Previous studies also show that good health status has a positive correlation with income and vice versa illness has a negative influence on income (Liu et al., 2008; Schofield et al., 2011). Further, illness along with related medical expenditure reduces individual's or household consumption that would affect individual's welfare (Gertler & Gruber, 2002; Wang et al., 2006; Wagstaff, 2007)

On the other hand, not all determinants of individual's welfare are reflected in market price. Therefore, economists should appreciate the subjective well-being as an option to analyse individual welfare (Ott, 2008). Subjective well-being is a measurement that can complement other measurements of welfare and help to understand the drivers of individual's well-being (OECD, 2013). Subjective well-being is people's emotional and cognitive evaluation of their lives (Diener et al., 1999). The evaluation includes positive and negative effects and the satisfaction of individual's life either in general or in a specific domain of life. In many occasion, the term subjective well-being is often used interchangeably with the term happiness or a life satisfaction. The most applicable method to measure the subjective well-being is conducting survey by requiring respondents to give answers in what level they feel happy (Easterlin, 1974; Frey et al., 2002). As an example, United States General Social Survey uses a question "Taken all together, how would you say things are these days: would you say that you are very happy, pretty happy or not too happy?" to measure respondent's happiness perception. Although

this measurement is subjective, in the context of democracy life, people's opinion to their life evaluation should be respected and noticed by policy maker as a part of the assessment of their life success (Diener, 2000).

Empirical researches indicate the existence of positive influence of health on subjective well-being (Oswald et al., 2006; Mukuria et al., 2012; Bockerman et al., 2011; Sohn, 2014; Wang et al., 2000; Rahayu, 2016). Individuals with a better health status have a higher level of happiness. To measure the level of happiness, previous research use different scale of self-reported subjective well-being such as 3 scale (Sohn, 2014; Rahayu, 2016), 4 scale (Wang et al., 2015); 5 scale (Mukuria et al., 2013), 7 scale (Oswald et al., 2006) and 10 scale (Bockerman et al., 2011). Previous studies also use various health measures such as anthropometric indicators, diagnosed disease or chronic condition and subjective health status. For example, Sohn (2014) found that tall men and women are happier than their short counterparts. Meanwhile, Bockerman et al. (2011) found that an individual who has chronic condition such as disorder of lung function, heart, muscles, hearing, sight, neurosis and psychiatric problem has lower happiness level. Rahayu (2016) reported that individuals with higher perceived general health status have greater happiness. Meanwhile, by using multidimensional instrument such as EuroQol-5 Dimension (EQ-5D) and Short Form-5 Dimension (SF-5D), researchers can examine deeper the influence of each dimension. Using the EQ-5D and SF-5D instrument, Mukuria et al. (2012) found that mental health (depression and anxiety), vitality and social functioning were found have a large significant association with the patients's own happiness assessment. Among five components of EQ-5D instrument, Wang et al. (2015) also found that depression has a negative impact to the subjective well-being.

Although numerous researches have been conducted to explain the effect of health on the subjective well-being, studies that looked at functional limitation measures are lacking, especially for the case in developing countries such as Indonesia. The study about functional limitation is relevant to conduct in Indonesia for some reasons. One of reasons is aging population. Along with the increase in the age of life expectancy, the Central Bureau of Statistics of Indonesia forecasts an increase of the aging population in the composition of the entire Indonesian population by the year 2035 (Adioetomo & Mujahid, 2014b). One of the main issues on the aging population is the declining of physical ability that could impact individual's quality of life. Based on survey data, majority of the elderly of Indonesian population continue to work for pay, especially on poor household (Adioetomo et al., 2014a). A decline in physical ability will limit elderly in economic and social or cultural activities. As explained before, this limitation on economic activity will affect the individual's well-being. Therefore, this study tries to answer the question on the relationship between functional limitation and individual's subjective well-being in Indonesia. Functional limitations are assessed in three domains that are physical functions, basic Activity of Daily Livings (ADLs), and Instrumental Activity of Daily Livings (IADLs). In this study we focus on physical function as our interest variable of health status.

Physical function measurement is an important cause of numerous aspects of individual's socioeconomic status (Fonda, 2004). Fox et al. (2007) and Garatachea et al. (2008) conducted a quasi-experimental research and found that physical function and physical activity has a relationship with feelings of well-being. Different subjective well-being is used in those research, Fox use the Satisfaction with Life Scale, which is a self-administered questionnaire with five non-specific items on a seven point scale, to assess global life satisfaction. Meanwhile, Garatachea use 30 items measure of happiness sense. Although weak, Fox et al. (2007) found that total daily physical activity energy expended (joules/day) and amount of time spent on physical activity is correlated with subjective well-being. Individual who are active in physical activities have higher level of subjective well-being than individual who are less active (Garatachea et al., 2008). However, by using small sample, previous studies were difficult to yield a robust result if the samples were grouped and analyzed based on demographics background such as the language spoken (Fox et al., 2007). In our study, we use large data that represent characteristics of Indonesia's population. Since social relationship, education, religion and basic needs have significant impacts on the subjective well-being especially for individuals in eastern countries (Jaafar et al., 2012), we use socioeconomic and demographic data as control variables in our regression model that are not included in the research of Fox and Garatachea.

Besides that, the previous empirical studies did not consider an endogeneity problem that may results in bias estimates. Diener et al. (2011) and Sabatini (2014) argued that happiness is a good predictor of health status. People who have a higher level of happiness will restrict themselves from behaviour that can reduce the level of health. Furthermore, based on the disability model proposed by Verbrugge and Jette (1994), disability is affected by factors such as impairment that may unobservable. This possibility of a reversed causality and unobserved variables may lead into an endogeneity problem. We use an ordered logit model approach with the instrumental variable (IV) to correct for this endogeneity problem. In this study, we use the number of fallen down as an instrumental variable for the physical function index. We estimate this IV-Ordered Logit regression using a Two

Stage Residual Inclusion (2SRI) method.

After controlling for socioeconomic and demographic factors, we found that the physical function index has a positive significant impact on the subjective well-being. Based on the marginal effect results, on average, increasing on one unit of the physical function index will increase the probability of being very happy about 1.5%. Since the magnitude of the coefficient in the IV-Ordered Logit is larger than that in the ordinary Ordered Logit, we conclude that there is no existence of a reversed causality. Therefore, a physical function is a good predictor for the subjective well-being.

Numerous literatures have demonstrated that health is related to subjective well-being. To the best of our knowledge, this present work is the first study that examines a physical function as a determinant of subjective well-being. By focusing on the physical function, our finding advances previous findings that health is strongly related to subjective well-being. Our study use large survey data that represents population characters. Our findings support previous quasi experimental researches (Fox et al., 2007; Garatachea et al., 2008) that conclude that being able to do various activities make an individual happier. On the aspect of methodology, we offer the novel approach by using IV-Ordered Logit model for this case.

The rest of the paper is organized as follows. First, we present our data source and empirical strategies. In this section we also present an overview about IV-Ordered Logit method. Second, we present the summary of descriptive statistic, first stage regression and second stage regression results. The discussion based on regression results is presented in the third section. We also compare the result of IV-Ordered Logit regression with ordinary Ordered Logit model. Finally, we conclude our finding by considering limitations of our research.

2. Data and Method

2.1 Data

This research uses the most current dataset of Indonesian Family Life Survey (IFLS) data wave 5, year 2014. The IFLS is a national scale survey that provides a rich dataset at three levels (individual, household and communities). The survey is a representation of more than 80 percent of Indonesian population. The observation used in this research is individual level. We use information on individual’s health condition, education, socio-economic and demographic characters of the individuals, and social capital.

2.2 Empirical Strategy

The outcome variable of this research is a subjective well-being that derived from the survey question “Taken all things together how would you say things are these days, would you say you were very happy, happy, unhappy or very unhappy?” The original responses for this question are 1 (very happy), 2 (happy), 3 (unhappy) and 4 (very unhappy). Then, these responses are reversed, so a higher score reflects a greater happiness.

Physical functions’ measurement in the IFLS survey is adapted from the United States Health and Retirement Study and is modified to fit into the local context (Sujarwoto, 2015). There are eleven questions about the physical function in IFLS wave 5. The questions are about the respondent’s ability of doing some activities such as “to carry a heavy load”, “to walk for 1 kilometer”, “to walk across the room” and “to reach or extend arms above shoulder level”. The original responses for each question are 1 (easily), 3 (with difficulty) and 5 (unable to do it). For further analysis, these responses are reversed and then are summed for each respondent. The score is indexed with following algorithm (Hays et al., 1995; Fayers et al., 2000):

$$Physical\ Function\ Index = (Score - Min.Score)/(Max.Skor - Min.Skor) \times 100 \tag{1}$$

If the individual can easily perform all activities, the index value will be 100 and if the individual is unable to perform all activities, the index value will be 0 (zero).

Since the subjective well-being is the ordinal value, we use ordered logit model as follow:

$$SWB_i^* = \beta_1 H_i + \sum_k \beta_k Z_{ik} + \epsilon_i \tag{2}$$

where SWB_i^* is a latent variable of the subjective well-being of an individu i , H_i is the physical function index of an individual i and Z_{ik} is a vector of control variable k of an individual i , ϵ_i indicates the error term, β_1 and β_2 are coefficients to be estimated. The connection between the latent variable SWB_i^* and the observed response category is:

$$SWB = \begin{bmatrix} = 1\ if\ SWB^* \leq \alpha_1 \\ = 2\ if\ \alpha_1 < SWB^* \leq \alpha_2 \\ = 3\ if\ \alpha_2 < SWB^* \leq \alpha_3 \\ = 4\ if\ \alpha_3 < SWB^* \end{bmatrix} \tag{3}$$

where $\alpha_1, \alpha_2, \alpha_3$ and α_4 are unknown cut points and are estimated, along with β_1 and β_2 .

The control variables used in this research are consisting of foods expenditure, education, social capital and demographic variables of individuals. We use food expenditure as a proxy of an income indicator. The increase in individual's income is not always followed by the increase of the subjective well-being (Easterlin, 2002). Nevertheless, empirical researches in developing countries indicate the positive effect of the income on the subjective well-being (Diener et al., 2001; Rahayu et al., 2016).

Social capital has a significant influence on the subjective well-being especially for individuals in eastern countries (Jaafar et al., 2012). Therefore, we use four variables as proxies of the social capital. Those social capital variables are derived from questions about religiosity, a willingness to help neighbours, how safe the village where the individual lives and the acceptance over individuals with different faiths.

Since previous studies showed the U-shaped relationship between the age and the subjective well-being, we use the age and its squared value in the model specification. We also add a dummy variable for a marital status (married or unmarried), sex (male or female), a working status (working or not working), a region (urban or rural), and whether the individual lives in Java or outside Java island to represent the differences in the economic development of the region.

2.3 Endogeneity Issue

Sabatini (2014) estimated that happiness is a good predictor of health. People who have a better happiness will restrict themselves from behaviour that can reduce the level of health. Based on those findings, there is a possibility of a reverse causality between happiness and health status. Therefore, we treat the physical index as an endogenous variable and use an instrumental variable approach to correct this endogeneity problem.

A valid instrument must be correlated with the endogenous explanatory variable, but must be uncorrelated with the outcome variable. Based on the disability process model of Verbrugge and Jette (1994), the physical function is influenced by a pathology disorder and a physical impairment. Impairments are disfunctions and significant structural abnormalities in a specific body system. Individual who experienced accident or fallen down probably get some physical impairments. In this study, the physical function index is instrumented with the number of fallen down in the last two years. This data is derived from the survey question "how many times have you fallen down in the last two years?"

To implement an ordered logit model with an instrumental variable, we follow the two-stage residual inclusion (2SRI) model (Terza, 2008; Wooldridge, 2010). In the first stage, the physical function index is regressed on the instrument (the number of individual's has fallen down) and all exogenous regressors. Then, the residuals from the first-stage regression were incorporated into an ordered logit regression of the subjective well-being on the covariate vector, the physical index, and the residuals. Followings are procedure of 2SRI.

$$SWB_1^* = \gamma_2 H_2 + \delta_1 Z_1 + u_1 \quad (4)$$

where H_2 is the physical function index which is endogenous and Z_1 is all exogenous variables. We first regress the physical function index on all exogenous variables and the instrument variable as follow:

$$H_2 = Z \delta_2 + v_2 \quad (5)$$

if we write $u_1 = \theta_1 v_2 + e_1$ and plug into the equation (4), we obtain

$$SWB_1^* = \gamma_2 H_2 + \delta_1 Z_1 + \theta_1 v_2 + e_1 \quad (6)$$

The endogeneity exist if the residual value of the equation 5 (v_2) and the residual value of the equation 4 (u_1) are correlated. A simple test of the null hypothesis that H_2 is exogenous is by analyzing whether the coefficient of the first stage residual value, θ_1 , is significant or not. If θ_1 is significant, then the null hypothesis that H_2 is exogenous can be rejected (Wooldridge, 2010).

3. Result

3.1 Descriptive Statistics

This study has 31,217 observations. Table 1 informs that there are 73 percent of married, 47 percent of male, 59 percent of individuals live in urban and 54 percent of that live in Java Island. There is 91.49 percent of individuals who feel happy and very happy. Meanwhile, individuals who feel unhappy and very unhappy is only about 8.51 percent of total. On average, individuals who perceived higher level of happiness have higher physical function index as shown on Table 3. These data supports our hypothesis that there is a connection between health status and the subjective well-being.

Table 1. Summary of Descriptive Statistics

Variable	Number of observation	Mean	Standard Deviation
Subjective well-being	31217	3.04	0.5
Married	31217	73%	45%
Male	31217	47%	5%
Age (Year)	31217	37.24	14.95
Live in urban	31217	59%	49%
Live in Java Island	31217	54%	5%
Willingness to help neighbor	31217	3.25	0.46
Safety level of the village	31217	3.15	0.51
Religiosity	31217	2.9	0.68
Acceptance over individuals with different faith.	31217	2.76	0.61
Education (Year)	31217	9.72	3.84
Food Consumption (Rupiah)	31217	403,953.50	319,010.80
Household Members (person)	31217	6.31	3.36
Working	31217	59%	49%
Physical Function Index	31217	93.79	8.45

Note: Values are in index numbers, except that it is stated in the table; Source: IFLS 2014, author's calculation

Table 2. Distribution of Subjective Well-Being

Subjective well-being	Number of Observation	Percentage
Very Unhappy	332	1.06
Unhappy	2,325	7.45
Happy	24,427	78.25
Very Happy	4,133	13.24
Total	31,217	100

Source: IFLS 2014, author's calculation

Table 3. Average of Physical Function Index by Subjective Well-Being Status

Subjective well-being	Physical Function Index (Average)
Very Unhappy	90.279
Unhappy	90.461
Happy	94.068
Very Happy	94.271

Source: IFLS 2014, author's calculation

3.2 IV-Ordered Logit Regression Result

The test of the instrument shows that the instrument, the number of fallen down, has a significant impact on the physical function index at 1% significant level. Meanwhile, this instrument is not statistically significant influence the outcome variable, the subjective well-being. Therefore, it can be concluded that the number of fallen down is a valid instrument for the physical function index.

Table 4 shows the results of the first stage regression. The instrument variable, the number of fallen down, has a significant effect on the physical function index. The negative sign on the coefficients shows that the higher the number of fallen down will reduce the physical function index. As explained in the previous section, the physical impairment is one of the causes of the declining of the physical function ability. Other variables that are statistically significant influence the physical function are male, age and its squared term, an individual who is living in Java island, religiosity, tolerance, years of education, the number of household members, and an employed individual.

In the second stage regression, the residual value of the first stage is included in the regression model. Table 5 shows the second stage regression result. The coefficient of the first stage residual value is statistically significant. Thus, the null hypothesis that the physical function index is exogenous can be rejected.

The result of the second regression indicates that the physical function index has a significant effect on the subjective well-being. The positive sign means that the higher the physical index, the higher the subjective well-being level. Based on these findings, it can be concluded that the health status has a positive significant effect on the subjective well-being.

Table 4. First Stage Regression Result

Dependent Variable: Physical Function Index	Coefficient	Standard Error	t	P>t
Number of Fallen Down	-0.183	0.027	-6.790	0.000***
Married	-0.195	0.121	-1.610	0.107
Male	3.117	0.098	31.940	0.000***
Age	0.376	0.018	21.470	0.000***
Age Squared	-0.006	0.000	-29.310	0.000***
Live in urban	-0.060	0.096	-0.620	0.532
Live in Java Island	1.426	0.091	15.660	0.000***
Willingness to help neighbor	-0.054	0.098	-0.550	0.583
Safety level of the village	0.090	0.088	1.030	0.305
Religiosity	0.201	0.067	3.000	0.003***
Acceptance over individuals with different faith.	0.251	0.074	3.400	0.001***
Log. Natural Food Consumption	0.067	0.061	1.090	0.275
Education	0.156	0.014	11.580	0.000***
Household Members	-0.076	0.014	-5.580	0.000***
Working	1.205	0.103	11.720	0.000***
Constant	83.209	0.897	92.730	0.000

*** is significant at 1 percent level; Source: IFLS 2014, author's calculation

Table 5. Second Stage Regression Result

Dependent Variable: Subjective Well-Being	coeff.	Std. Err.	Z	P>z
Physical Function Index	0.141	0.047	3.000	0.003***
Married	0.781	0.038	20.320	0.000***
Male	-0.579	0.149	-3.900	0.000***
Age	-0.138	0.019	-7.270	0.000***
Age Squared	0.002	0.000	5.360	0.000***
Live in urban	0.137	0.030	4.550	0.000***
Live in Java Island	-0.262	0.073	-3.570	0.000***
Willingness to help neighbor	0.361	0.031	11.650	0.000***
Safety level of the village	0.416	0.028	14.760	0.000***
Religiosity	0.341	0.023	14.570	0.000***
Acceptance over individuals with different faith.	-0.045	0.026	-1.750	0.081*
Log. Natural Food Consumption	0.213	0.019	10.980	0.000***
Education	0.044	0.009	5.190	0.000***
Household Members	-0.002	0.006	-0.430	0.667
Working	-0.049	0.066	-0.750	0.453
residual 1 st Stage	-0.126	0.047	-2.660	0.000***
/cut1	12.438	3.932		
/cut2	14.661	3.932		
/cut3	19.309	3.933		

*** is significant at 1 percent level, ** at 5 percent level, * at 10 percent level

Source: IFLS 2014, author's calculation

Socio-economic variables such as household consumption and years of education are also statistically significant influence the subjective well-being and have the expected signs. It means that an increase in the household consumption improves the subjective well-being. Individuals with higher education are happier. Besides that, the

social capital variables which are the willingness to help neighbors and the trust, are also give positive significant impacts on the subjective well-being. Better social capital is happier.

The demographic characteristics also have significant influences on the subjective well-being. Female, married one, living in urban area and living outside Java island are happier than male, unmarried, living in rural area, and living in Java island. However, the number of household members and working status are not statistically significant in affecting the subjective well-being.

Since the model is the ordered logit regression model, therefore we cannot interpret the coefficients of estimated. The appropriate analysis for this nonlinear model is using the marginal effect. The marginal effect measures the impact of one unit change in a predictor at one unit of a probability of each level of the subjective well-being. Table 6 shows the result of the marginal effects. In this study, we use Average Marginal Effect model.

On average, one unit change in the physical function index, the probability to be very happy (SWB=4) is increased by 1.5 percent. Meanwhile, the change of the physical function index by one unit causes a decrease in the probability of felling happy (SWB=3) by 0.5 percent. Besides that, the increase of the physical function index by one unit causes the probability of being unhappy (SWB=2) is reduced by 0.9 percent. Moreover, the increase of the physical function index by one unit will decrease of felling very unhappy (SWB=1) by 0.1 percent. It can be concluded that the increasing of the physical function tends to influence individuals of having very happy condition.

Table 6. Average Marginal Effect

Dependent Variabel: Subjective Well-Being	Very Unhappy (SWB=1)	Unhappy (SWB=2)	Happy (SWB=3)	Very Happy (SWB=4)
Physical Function Index	-0.001***	-0.009***	-0.005***	0.015***
Married	-0.010***	-0.057*	-0.009***	0.076*
Male	0.006***	0.037**	0.019**	-0.063*
Age	0.001***	0.009***	0.005***	-0.015**
Age Squared	0.000***	0.000***	0.000***	0.000***
Live in urban	-0.001***	-0.009***	-0.005***	0.015**
Live in Java Island	0.003***	0.016**	0.010***	-0.029**
Willingness to help neighbor	-0.004***	-0.023**	-0.013**	0.039**
Safety level of the village	-0.004***	-0.027**	-0.015**	0.046**
Religiosity	-0.004***	-0.022**	-0.012**	0.037**
Acceptance over individuals with different faith.	0.000***	0.003***	0.002***	-0.005***
Log. Natural Food Consumption	-0.002***	-0.013**	-0.008***	0.023**
Education	0.000***	-0.003***	-0.002***	0.005***
Household Members	0.000***	0.000***	0.000***	0.000***
Working	0.001***	0.003***	0.002***	-0.005***

*** is significant at 1 percent level, ** at 5 percent level, * at 10 percent level; Source: IFLS 2014, author’s calculation

3.3 Robustness Check

Robustness of the predictors could be seen from the consistency of its sign and its significance as shown in Table 7. We add a depression as an explanatory variable on the regression model. We also use interaction terms as additional variables included in the model. As shown in table 7, the interaction between the physical function index and the logarithm of food consumption is used in the model 3 and the interaction between the physical function index and education is used in the model 4. In Table 8, we compare the result of IV-Orderd Logit to the ordinary ordered logit model. The signs and the significances of the coefficients of estimated are not changes in the model 3 and 4, therefore, we can conclude that the IV-Ordered Logit Model in Model 1 of Table 7 is robust.

Table 7. Regression Result of Several Model of IV-Ordered Logit

Dependent Variabel:	Model 1		Model 2		Model 3		Model 4	
	Coef.	P>z	Coef.	P>z	Coef.	P>z	Coef.	P>z
Subjective Well-Being								
Physical Function Index	0.141	0.003***	0.112	0.035**	0.127	0.014**	0.143	0.002***
Depression			-0.263	0.000***				
Physical Function x Log. Food Consumption					0.001	0.503		
Physical Function x Education							0.000	0.604
Married	0.781	0.000***	0.764	0.000***	0.781	0.000***	0.780	0.000***
Male	-0.579	0.000***	-0.488	0.003***	-0.580	0.000***	-0.580	0.000***
Age	-0.138	0.000***	-0.129	0.000***	-0.138	0.000***	-0.138	0.000***
Age Squared	0.002	0.000***	0.001	0.000***	0.002	0.000***	0.002	0.000***
Live in urban	0.137	0.000***	0.147	0.000***	0.137	0.000***	0.137	0.000***
Live in Java Island	-0.262	0.000***	-0.226	0.005***	-0.262	0.000***	-0.262	0.000***
Willingness to help neighbor	0.361	0.000***	0.371	0.000***	0.360	0.000***	0.361	0.000***
Safety level of the village	0.416	0.000***	0.408	0.000***	0.416	0.000***	0.416	0.000***
Religiosity	0.341	0.000***	0.342	0.000***	0.341	0.000***	0.341	0.000***
Acceptance over individuals with different faith.	-0.045	0.081*	-0.053	0.035**	-0.046	0.080*	-0.045	0.082*
Log. Natural Food Consumption	0.213	0.000***	0.214	0.000***	0.109	0.483	0.213	0.000***
Education	0.044	0.000***	0.049	0.000***	0.044	0.000***	0.062	0.076*
Household Members	-0.002	0.667	-0.004	0.505	-0.002	0.676	-0.002	0.660
Working	-0.049	0.453	-0.002	0.974	-0.049	0.452	-0.049	0.451
residual 1 st Stage	-0.126	0.008***	-0.100	0.059*	-0.126	0.008***	-0.126	0.008***

*** is significant at 1 percent level, ** at 5 percent level, * at 10 percent level; Source: IFLS 2014, author's calculation

Table 8. Comparison between IV-Ordered Logit and Ordinary Ordered Logit

Dependent Variabel: Subjective Well-Being	IV-Ordered Logit		Ordered Logit	
	Coef.	P>z	Coef.	P>z
Physical Function Index	0.141	0.003***	0.016	0.000***
Depression				
Married	0.781	0.000***	0.762	0.000***
Male	-0.579	0.000***	-0.193	0.000***
Age	-0.138	0.000***	-0.090	0.000***
Age Squared	0.002	0.000***	0.001	0.000***
Live in urban	0.137	0.000***	0.129	0.000***
Live in Java Island	-0.262	0.000***	-0.082	0.004***
Willingness to help neighbor	0.361	0.000***	0.353	0.000***
Safety level of the village	0.416	0.000***	0.428	0.000***
Religiosity	0.341	0.000***	0.367	0.000***
Acceptance over individuals with different faith.	-0.045	0.081*	-0.015	0.522
Log. Natural Food Consumption	0.213	0.000***	0.220	0.000***
Education	0.044	0.000***	0.064	0.000***
Household Members	-0.002	0.667	-0.012	0.004***
Working	-0.049	0.453	0.103	0.001***
residual 1 st Stage	-0.126	0.008***	0.762	0.000***

*** is significant at 1 percent level, ** at 5 percent level, * at 10 percent level; Source: IFLS 2014, author's calculation

4. Discussion

4.1 The Impact of Health Status on Subjective Well-Being

Based on the marginal effect results as shown in Table 6, on average, increasing one unit of the physical function index will increase the probability of being very happy about 1.5%. At the same time, increasing on one unit of the physical function index will decrease the probability of being happy, unhappy and very unhappy. Based on this finding, it is concluded that an increase of one unit of the physical function index leads the individual being very happy. These results are in line with Easterlin (2002) and Oswald et al. (2008) results which state that the disability affects the level of the subjective well-being. Individuals who experience severe disability have lower average levels of the subjective well-being.

Rahayu et al. (2016) and Sohn (2014) use other measurements of health status such as general health status and body mass index. Those health status have positive relationships with the subjective well-being for the case study in Indonesia. Rahayu et al. (2016) stated that healthy people are more productive and earn more income than unhealthy one. Since income is one of indicators of welfare, it means that healthier people is wealthier. Moreover, the findings of our study may also show that a poor health condition or illness is associated with a reduction of the labor supply and the productivity. Gertler and Gruber (2002) found that there are significant economic costs associated with health shocks faced by Indonesian people. The decrease of health condition has an impact on the declining of Indonesian consumption level and next the decreasing in the subjective well-being.

Menec's research (2003) explained that social, productive and solitary activities (hobbies) were related to happiness. Similar result is given by Ruseski et al. (2014). Using Instrumental Variable (IV) approach, Ruseki indicated that individuals who participate in physical activity such as sport caused higher life happiness. Being able to attend these various kinds of activities requires physical effort. Thus, better physical function allows an individual to do activities productively and this lead the individual to be happier. This finding is supported by the comparison between the result of the IV-Ordered Logit and the ordinary ordered logit model as shown in Tabel 8. Both the IV-Ordered Logit and the ordinary ordered logit models have no difference signs on the coefficients of the physical function index. Since the magnitude of the coefficient in the IV-Ordered Logit is larger than that in the ordinary Ordered Logit, we conclude that the physical function is a good predictor for the subjective well-being.

However, after we include depression in our model, the physical function gives less significant influence to the subjective well-being. The depression variable derived from a question whether a respondent feel depressed last week or not. The value will be in range of 1 (rarely or none feel depressed) to 4 (most of time feel depressed). As shown in Table 7 (model 2), depression is negatively correlated with the subjective well-being. After including this additional variable, the physical function index is still positively correlated with the subjective well-being. However, the magnitude and the significance is less than before. Previous studies state that mental health has a higher impact on the subjective well-being than that of the physical health (Wang et al., 2000; Mukuria et al., 2013; Böckerman et al., 2011). Moreover, research of Mukuria found that physical health had no association with happiness while mental health (depression and anxiety) have large significant association with happiness.

Other variables that have significant and positive effects on the subjective well-being are food consumption or expenditure, education and most of the social capital measures. Foods consumption expenditure is used as a proxy for an individual income. This finding supports previous research that income has a strong and positive effect on the subjective well-being, especially in developing countries (Diener *et al.*, 2001; Di Tella, 2003).

Most of the social capital measures are positively correlated with the subjective well-being. Willingness to help neighbor and a safety level of the village have positive effects on the subjective well-being. In contrast to the Western countries, people in the Eastern countries usually live in a society that has a strong social bonding. Thus the quality of a relationship with other members of the society has an impact on happiness (Jaafar et al., 2012). However, the acceptance over individuals with different faith has a negative effect on the subjective well-being. Okulicz-Kozaryn (2010) argued that religion creates a bonding of social capital as opposed to a bridging of social capital.

Furthermore, women have higher level of the subjective well-being than that of men. According to Simmon (2008), women in poorer nations are more satisfied with their incomes than men. This may cause women happier than men. Moreover, married people and individuals who are living in urban area are also happier. Central Bureau of Statistics of Indonesia states that income, ownership of asset, and jobs are the important aspect for happiness (BPS, 2015). Better conditions for the aspects causing the urban people happier from those who live in rural area. Further, the relationship between age and the subjective well-being is like U-shaped curve. It is shown by a negative sign of the age coefficient and a positive sign of the age squared coefficient. Blanchflower and

Oswald (2008) argue that individuals learn to adapt to their strengths and weaknesses. These adaptations lead individuals able to adjust their happiness level.

5. Conclusion

Using Indonesian Family Life Survey 2014 data, we analysis the relationship between health status and the subjective well-being. We use the physical function index as a proxy for health status. After controlling for socioeconomic and demographic factors, we found that the physical function index has a positive impact on the subjective well-being. It can be implied that any intervention that relates to the improvement of health status will improve the individual's well-being. Since the magnitude of the coefficient in the IV-Ordered Logit is larger than that in the ordinary Ordered Logit, there is no existence of a reversed causality. Then, it can be concluded that the physical function is a good predictor for the subjective well-being. The limitation of this study is the use of the cross sectional data. Easterlin (2002) argues that there are individual life cycle effects on the subjective well-being. The lack of data on the panel of the physical function in the IFLS dataset limits the study to observe those effects. Using longitudinal data, the future research hopefully may give possibilities to compare the magnitude of the impact of health status at each stage of the individual life cycle. Further research can explore other physical limitations or disability measures, such as Activity of Daily Livings (ADLs) or Instrumental Activity of Daily Livings (IADLs) that may give more explanations for the individual's subjective well-being.

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Intellectual Capital: How Do Islamic Ethics Rejuvenate It?

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Abstract

In this era of knowledge-based economy, intellectual capital (IC) is considered as a critical component in an organizational effort to emphasize on accomplishing competitive advantages and enhancing value added for the organization. Besides concentrating only on new product innovations, small and medium enterprises should also be engaged in managing IC in accordance to Islamic teachings. An understanding to Islamic ethics and its upshots for superior performance facilitates entrepreneurs in managing IC strategically. This paper aims to re-scrutinize several contributions in Islamic ethics and IC in SME entrepreneurial researches, ascertain the main elements of IC as well as Islamic work ethics (IWE); and thus show how IWE is relevant for research in the area of IC.

Keywords: Islamic work ethics (IWE), intellectual capital, knowledge-based, small and medium enterprises

1. Introduction

Knowledge-based economy relies heavily on intellectual competences than on physical capitals (Powell & Snellman, 2004). There has been a change in business environment caused by the usage of information technology (IT) in which knowledge and technical skills have the priority over natural resources (Brinker, 2000). The knowledge entrenched in people and organizations are known as intellectual capital (Ramezan, 2011; Cortini & Benevene, 2010; Bontis, 2004; Demediuk, 2002; Stewart, 1997). In this era, there is a growing importance of IC which is attributed to organizational wealth and gross domestic product (GDP) (Abramovitz & David, 1996; Abramovitz & David, 2000). For that reason, business success depends on organizational strategic management of intangible assets or intellectual capital (IC). Leveraging IC would lead to business success as it contributes substantially to organizational value (Keenan & Aggestam, 2001).

2. The Skandia Intellectual capital Value Scheme Theory

Many definitions of intellectual capital have been proposed by academics and practitioners. However, all of them decide that IC entails particular and systematized information usable for firm's successful business activities (Edvinsson & Sullivan, 1996). Basically, according to intellectual capital theorists, intellectual capital consists of three sub-domains: human capital (HC), organizational (or structural) capital (OC), and relational (or customer) capital (RC) (Stewart, 1997), Sveiby (1997), Bontis (1998), Dzinkowski (2000), Ramirez, Lorduy & Rojas (2007), Cortini and Benevene (2010). A clearer illustration has been done by Roos, Roos, Dragonetti and Edvinsson (1997) through the Skandia IC model as shown below:

Despite no concrete agreement on what IC is, there is still broad consensus on its definition. Mostly, IC comprises intangible assets, like knowledge, skills, customer's satisfaction, faith, loyalty, intellectual property, policies, procedures, social value, industrial property and ethics. (Edvinsson & Malone, 1997; Sveiby, 1997; Bontis, 1998; Bueno et al., 2004; Ismail & Songip, 2006). The concept of IC has been extended into two more new important elements: spiritual capital and technological capital (Ismail & Songip, 2006; Wu & Tsai, 2005) that have positive impacts on organizational performance. Ramezan (2011) described IC components as human

capital, organizational capital or structural capital, social capital technological capital and business process capital or customer capital. On the other hand, Khalique, Isa, and Shaari (2013), Khan (2014), Hashim, Osman and Alhabshi (2015) with Ullah and Hassan Yousaf (2016) synthesized IC elements into human capital, customer capital, structural capital, social capital, technological capital and spiritual capital. In spite of its multidimensionality, this study has defined IC as encompassing; (i) Human Capital (HC), (ii) Organizational Capital (OC), (iii) Relational Capital (RC), (iv) Spiritual Capital (SpC) and (v) Technological Capital (TeC).

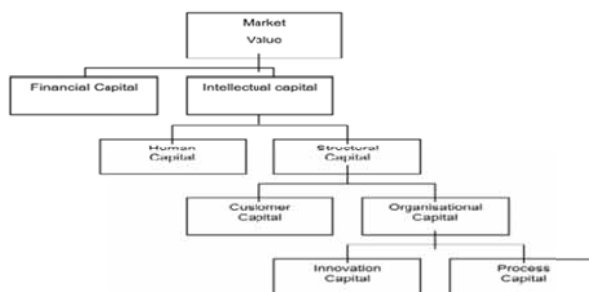


Figure 1. The Skandia Intellectual capital Value Scheme (Source: Roos et al., 1997)

2.1 Measuring Current Values

In the new economy, achieving competitive advantages is crucial for business success and in order to do so, organizations have to exploit both tangible and intangible resources i.e. IC. IC is a key successful feature for all kinds of organizations (Lonnqvist & Mettanen, 2002), including small and medium enterprises (SMEs). Hence, SMEs need to comprehend the concept of IC as to be equipped with effective and efficient management of IC. SMEs should transform their identity through the integration of the IC (Volpel, 2000) by providing employees a favorable environment to innovate, use the capability freely, and act intelligently and responsibly (Wiig, 1999). This is due to the fact that compared to large firms; SME labour productivity (measured by real GDP per worker) is rather small. As indicated in SME Annual Report 2013/2014, labour productivity of Malaysian SMEs was 2.73 times smaller than that of large firm in year 2013. Moreover, in term of labour quality, Malaysia displays a shrinking measure for the period of 2006-2012 compared to the selected developed countries (Japan, Singapore, South Korea and Finland) (MPC, 2014). Malaysia has the number of skilful and talented workers which are a smaller amount of than the average of high-income countries. It is unfortunate that the country is experiencing a deficiency of skilled workforce, weak productivity development due to lack of creativity and innovation in the labour force, and an over-dependence on unskilful cheap foreign labours (National Economic Advisory Council, 2010). These concerns must be resolved to avoid SME entrepreneurs from being bankrupt (Omar & Azmi, 2015).

What could be the reasons for these issues? Is it because of deficit in intangible assets which are considered as crucial capitals in building firm's capacity and capability to compete effectively? Or is it due to lack of understanding of Islamic ethics which is then hinders the opportunity for SME entrepreneurs to maximize their efficacy in ensuring the profitability and performance? Based on the above situation and problems arisen, a research study needs to be conducted in an attempt to know to what extent IC will assist in creating competitive advantages among SME entrepreneurs. Accordingly, below are the main problems that are necessary to be studied;

- i. SME entrepreneurs are unaware of the role of IC as a strategic tool to increase business performance.
- ii. SME entrepreneurs need to understand the impact of Islamic ethics on IC of SMEs and their business performance.

Specifically, this paper offers groundwork to researches on Islamic ethics and IC; therefore determine IWE as well as the key components of IC. It is expected that the results of this paper will contribute to the prevailing body of knowledge by providing an enhanced understanding of Islamic ethics and its outcomes for superior performance facilitates entrepreneurs in managing IC strategically. In order to postulate IC within the comprehensive area of Islamic business studies, the first section begins by explaining what is meant by IC and its main elements as well as Islamic ethics. Then the paper endeavors to elucidate the integration of Islamic work ethics (IWE) in IC by showing how it is pertinent for research in the expanse of IC.

2.2 IC and Its Sub-Domains Study

- i. Intellectual Capital (IC)

IC refers to intellectual materials - knowledge, experience, information, intellectual property, organizational technology, customer relationships and professional skill that provide the firm with competitive advantages (Stewart, 1997; Edvinsson & Malone, 1997). IC is intangible and needs to be discovered and exploited since it may offer a new resource-base to an organization in enhancing its value (Bontis, 1996).

IC sub-domains are categorized into five basic components; human capital, organizational capital, relational capital (customer and social), technological capital and spiritual capital (Khalique, Isa & Shaari, 2013; Khan, 2014; Hashim, Osman & Alhabshi, 2015; Ullah & Hassan Yousaf, 2016). Therefore, organizations ought to get the most out of its assets in these parameters so as to obtain high competitiveness in the market. The sub-domains of IC possibly will deliver further understanding of IC concept and its impact on business accomplishment (Marcin, 2013).

ii. Human Capital (HC)

Human capital represents the stock of knowledge in an organization (Bontis, Crossan & Hulland, 2002). Bontis (1998) defines human capital as the capability of firm to get the best solutions from the knowledge of its employees. Moreover, human capital is genetic inheritance, education, experience, attitudes (Hudson, 1993), skill, the relationship between ability and achievement and knowledge (Edvinsson & Richtner, 1999). Bontis (1999) claims that human capital is an imperative source for firm's strategic renewal and innovation. Indeed, human capital is the capability of intellectual in the company.

iii. Organizational Capital (OC)

Organizational capital is the infrastructure supports for human capital to work in a company. The supports consist of organizational work procedures, programs, systems, processes, and philosophies that organizations need to operate the business (Kannan & Aulbur, 2004). Specifically, organizational capital covers all the non-human knowledge in organizations, such as databases, process manuals, organizational charts, strategies, routines and whatever thing whose value to the business is higher than its physical value (Bontis, 1999). Bontis (1998) argues that organizations with weak systems and procedures to track its activities, the company's IC will not be able to be at its peak. The supportive culture in a firm with strong organizational capital will let people go for and learn new things, and not afraid to fail; thus encourage the organization to reach the fullest potential.

iv. Relational Capital (RC)

Relational capital refers to the organization's relationship with the outside environment such as alliances, suppliers, customers, partners, competitors and delivery networks. In other words, relational capital represents the organization's relationships with external parties (Jardón & Martos, 2009) such as customers, suppliers and other stakeholders (Cohen & Kaimenakis, 2007). Normally, relational capital is through SMEs' personal linkages (Adler & Kwon, 2002) that aid them to identify business prospects (Bhagavatula, Elfring, Van Tilburg & Van De Bunt, 2010).

v. Spiritual Capital (SpC)

Spiritual capital contains religious outlooks and ethical beliefs (Khalique, Bontis, Abdul Nassir & Hassan, 2015). Al-Ghazali believes that spirituality (ruhaniyyah) is what creates belief and faith for religion (Al-Ghazali, 1983, Book 3). In line with this contention, spiritual capital is based on spirit, power, influence and knowledge resulted from religion (Berger & Hefinar, 2003; Liu, 2008), moreover, it can enhance organizational performance (Ismail, 2005).

vi. Technological Capital (TeC)

Technological capital is an intangible capital established on innovation process and technical exercise. It comprises of research and development (R&D) and protection rights (Khalique, Bontis, Abdul Nassir & Hassan, 2015). Ramezan (2011) and Ramirez (2010) stressed that the term technological capital comes from technical knowledge and is considered as an essential component of intellectual capital. The technical knowledge refers to the usage of production innovation methods and product technology that generates firm's competitive advantages (Fernandez, Montes & Vasquez, 2000), therefore turn out to be a powerful drive for high profitability.

2.3 Islamic Ethics

Religion controls human comportment through entrenched customs and principles (Roundy, 2009). Quddus, Bailey and White (2009) highlighted that religious background and beliefs influence individual values and ethical understanding. As asserted by Othman and Hariri (2012), Christianity, Islam and Judaism have divine guidelines for their adhered followers. Consequently, people imitate their religious thoughts in practicing ethic and values in everyday and business life. Islamic principles consist of both the law and ethics associated with work, thus Muslims are obligatory to work and operate business consistent with these principles (Obaid, 2005). Work ethics assist in economic development (Congleton, 1991), besides contributing to the organizational

success (Yunus, Abdul Rahim, Shabuddin & Mazlan, 2011). Kazempour, Ashrafi and Taheri (2012) highlighted one of the main variables in organizational success is observing ethics. Most organizations pay significant attention to this matter due to positive consequences and applications of ethics and morality (Ahmadi, 2011). Abeng (1997) pointed out that organization may work more effectively and efficiently by upholding an ethical outline that monitors and aids to organize their exertion. Moreover, Islamic ethics offer the fundamentals for impartiality and tolerance to various needs, difficulties and challenges faced by an organization (Mohamed Aslam & Hafas, 2009). Islamic ethics is the ethical system molded by the teachings of the Quran and expounded by the Prophet (SAW) through actions and words (Hashi, 2011). The Quran sets the underpinning of ethical principles and the sunnah (way of Prophet's life) covers the real practices of the concepts. As mentioned in chapter 68 (Al-Qalam) of the Quran, verse 4:

"You (Prophet Muhammad) are on an exalted standard of character".

Equally, reported by Muslim (Qudsi Hadiths, 2012), hadith no.746:

"When asked about the character of the Prophet (SAW), his wife, Aishah (RA), replied: it was a reflection of the Holy Quran".

Indeed, ethical concepts taught by the Quran are personified in the Prophet's way of life, thus both the Quran and sunnah are the foundations of the Islamic ethics. To gain the pleasure of Allah (SWT), Muslims should apply the essential values of Islamic ethics (Ahmad, 2006). Furthermore, Islamic ethics encourage confidence and reinforce social business responsibilities (Ali, 2005). It is work-orientation in human life virtue (Rizk, 2008). In business, as the servants of Allah (SWT), Muslim entrepreneurs should discern and engage in Islamic ethics (Beekun & Badawi, 2004) through hard working, avoidance of wealth accumulation, commitment, dedication, work creativity, collaboration and competitiveness (Yousef, 2001). Specifically, as agreed by Muslim scholars, entrepreneurs need to practice Islamic teachings and incorporated them in their entrepreneurial activities (Ghazanfar & Islahi, 1998, Faizal, Ridhwan & Kalsom, 2013; Hoque, Mamun & Mohammad Ahshanul Mamun, 2014; Rohaiza, 2014) for the sake realizing Allah's pleasure and achieving the betterment in this world and hereafter. According to Imam Al-Ghazali, Islamic ethics comprise of four basic qualities: i) wisdom, ii) courage, iii) patience, iv) justice (Al-Ghazali, 1983, Book 3). Islamic ethics is recognized by Al-Ghazali as spiritual practice of man, imbedded in his soul and exhibited over the actions. Encompassing of the right actions towards God, family members, and the public (Muhammad, 1983). Islamic ethics will guide people, especially entrepreneurs, in securing the righteous deeds and refraining from evils. Additionally, it is moral filler of thorough business activities and enhanced firm performance (Rice, 1999). Ali (1988) mentioned that hard work and competition are encouraged to improve quality of a business. Concisely, Islamic work ethic (IWE) contends that life will be meaningless for someone who is not working; and involvement in business activities is a responsibility. Below is a summary of the IWEs' items as recommended by Ali (1988) and the reference in Al-Quran.

Subject	Verses in Al-Quran
1. <i>Agreements and promises</i>	<i>Ar-Rad 13:25, Al-Qasas 28:28, Yunus 10:71</i>
2. <i>Consideration for others</i>	<i>An-Nisaa' 4:36, Al-Mumtahina 60: 9</i>
3. <i>Consultation</i>	<i>Ash-Shura 42:38, Taha 20:103, Al-Kahf 18:22</i>
4. <i>Continuous improvement</i>	<i>Al-Araf 7:42. Cooperation. Al-Hujraat 49:9, Maryam 19:9</i>
5. <i>Equality and unity</i>	<i>Al-Isra' 17:35</i>
6. <i>Fairness in dealings</i>	<i>Al-Anaam 6:152, Al-Mumtahina 60:8, An-Najm 3:32, Al-Maida 5:8</i>
7. <i>Fairness in wages</i>	<i>Al-Imran 3:57, Saba' 34:37</i>
8. <i>Hard work</i>	<i>Al-Baqara 2:62; 82, Al-Anaam 6:135</i>
9. <i>Helping others</i>	<i>As-Saff 61:14, An-Nahl 16:97, Yunus 10:41</i>
10. <i>Honesty and justice.</i>	<i>Al-Baqara 2:177, Az-Zumar 39:2; 3</i>
11. <i>Humble</i>	<i>Hud 11:23</i>
12. <i>Patience</i>	<i>Hud 11:11</i>
13. <i>Righteous/Intention</i>	<i>Al-Baqara 2:25; 225, Al-Baqara 2:62, At-Taubah:105, As-Saff 61:8, Al-Qasas 28:19</i>

14. *Social order*

Al-Imran 3:110, Al-Baqara 2:273

15. *Truth*

Al-Anfal 8:27, Yunus 10:61, An-Nur 24:8

Source: Ali (1987)

Previous studies (Al Habtoor, 2001; Yousef, 2001; Ali, 2005; Ali & Al-Owaihian, 2008) have approved on the adoption of the IWE in management, business operations and economic undertakings. IWE measurement scales constructed by Ali (1988) has been used by many business scholars (Yousef, 2001; Rahman, Muhamad, & Othman, 2006; Ali & Al-Kazemi, 2007; Kumar & Rose, 2010; Rafiki & Wahab, 2014). Hence, this study shall be using the same scales in the expanse of IC.

3. Materials and Methods

Qualitative research is chosen to do this study which deal with ethic issues. Ethic issues are subjective and regarded as less easily measured and chartered. They touch on the search for meaning behind actions and also to understand rather to measure (Hammersly, 1992). Hence, in this context, it concerns with what and how entrepreneurs are capable to sustain their work ethics.

4. Result and Analysis

4.1 *Should Islamic Work Ethics (IWE) Be Integrated in Intellectual Capital (IC)?*

Islam is a complete way of life (ad-Din), covering every single aspect to guide all human activities and business operations, and so Muslim entrepreneurs' values should perpetrate Islamic teachings; ruled by Al-Quran and Sunnah. Muslim entrepreneurs should capitalize their organizational assets in IC and strive to meet religious goals in order to acquire high competitiveness in business. Specifically, they must focus on the management of IC fore mostly on pleasing Allah (SWT), consistent with the moral and Islamic ethics, fulfilling religious obligations and profiting the public as a whole; besides increasing value creation capabilities and competitiveness of the organizations.

It is indeed a plus factor for them as Islamic ethics and spirit infuse the qualities of dynamism in being good Muslims (Solaiman & Hillaly, 1997); which possibly refining dynamic competencies in global competitiveness orientation. As IC supports an organizational competitiveness advantage (Phusavat, Comepa, Sitko-Lutek, & Ooi, 2011), good Muslim entrepreneurs, possessing IC-related conducts such as diligence, commitment, devotion, creativeness, cooperation and competitiveness (Yousef, 2001) shall definitely strengthen a firm's value-creation. This is due to the fact that individual development in Islamic approach not only accommodates central human needs, but also provides opportunities for better material life applied for an organizational success (Zangoueinzhad & Moshabaki, 2011). Accordingly, in managing IC of a firm, entrepreneurs have to foster Islamic ethics such as prayer, patience, gratitude, reliance on Allah, faith, gratification, self-composure, mildness, modesty, knowledge, sincerity, modesty, loyalty, self-respect, silence and deliberateness (Al-Ghazali, 2004). As a result, these merits will endorse decent demeanor, leading to submission and salvation (Al-Ghazali, 2004). Besides, an entrepreneur who endeavors to improve the business performance as a means of piety to Allah (SWT), he is actually worshipping according to the Prophet's teachings (Al-Ghazali, 1983, Book 2).

4.2 *Should Islamic Work Ethics (IWE) Be Integrated in Human Capital (HC)?*

Incorporating ethics into HC management would significantly augment the quality of organizational performance (Mehralian, Rajabzadeh, Sadeh, & Rasekh, 2012). Sakinah and Ahmad Azrin (2016) have agreed that HC and Islamic ethics would encourage initiatives among entrepreneurs in making their businesses successful. Further, Moghaddam, Akhavan and Mehralian (2015) have listed several ethics such as trust, devotion, commitment, hard-work, responsibility, and just that can inspire employees to have greater HC and work at their full capability for business development. Moreover, a prominent scholar and teacher, Imam Al-Ghazali had appreciated HC in which he promoted Muslims to pursue the needed knowledge (Al-Ghazali, 1983, Book 1). Hence, in capitalizing in HC, Al-Ghazali asserted that entrepreneurs should adopt IWE and integrate it in their entrepreneurial undertakings. The assimilation of IWE in HC will definitely offer a balance guiding principle as it has complete means to achieve success in this world and hereafter.

4.3 *Should Islamic Work Ethics (IWE) Be Integrated in Organizational Capital (OC)?*

One of the connotations of ethics given by Solomon (1984) is the social rules administer and bound our behavior, especially the critical procedures about right and wrong. The procedures are also known as morality. Hence, in operating a business, organizational work procedures, programs, systems, processes, and philosophies should be implemented in accordance to appropriate ethical rules or IWE. SME entrepreneurs ought to integrate ethical contents or IWE in OC and monitor its execution from time to time. Jalil, Azam and Rahman (2010) suggested

that business organizations need to have business ethical code which stipulates the ethical contents. Proper implementation of IWE can promise customer satisfaction and business profitability. Supported by Yesil, Sekkeli and Dogan (2012), IWE values influence firm performance positively.

4.4 Should Islamic Work Ethics (IWE) Be Integrated in Relational Capital (RC)?

Issues on business ethics, sustainable business practice, integrity and corporate governance have received tremendous interests (Waddock, Bodwell, & Graves, 2002). For instance, Ahmad Azrin (2015) has highlighted the issue of organizational corporate social responsibility (CSR) measurement that should be implemented with the insertion of spiritual values and considered Islamic ethics as the priority. It is a requisite to implement IWE in the company to put up with the international market. IWE will build trust in the organization, from outside environment. As mentioned by Holme (2008), suppliers will be willing to supply to companies that they can trust. So, an organization will create better relationship with suppliers whom they gain higher level of trust from. In consequence, better business reputations will be formed. IWE helps companies generate values in business operations. The value supports organizations in developing good relationship with various types of external parties, thus facilitates the companies in achieving high business performance.

4.5 Should Islamic Work Ethics (IWE) Be Integrated in Spiritual Capital (SpC)?

IWE will take entrepreneurs to higher circumstances of spiritual illumination. As mentioned by the Prophet (SAW) "Act in accordance with what you know for what you do not know (will) be unveiled to you (by Allah SWT)" (Al-Ghazali, 2004). Al-Ghazali (2011) asserted a person will achieve the uppermost satisfaction when he or she is capable to know Allah SWT closely. To attain higher level of job satisfaction, individuals should have work-life balance (material and spiritual) which would make them perform better (Sudarsono, 2010; Muafi, 2003). IWE will be able to improve the quality of life besides contributing to the economic development, thus it should be emphasized in entrepreneurial undertakings by incorporating it in spiritual capital.

4.6 Should Islamic Work Ethics (IWE) Be Integrated in Technological Capital (TeC)?

In order to survive in this era of turbulent economy, organizations need to innovate (Shan, Pan, & Zhang, 2009; Yeşil & Kaya, 2012). Business success is greatly influenced by organizational capability to indulge in production innovation methods and product technology; which are also called as technological capital. IWE will be able to enhance innovation competency of the organizations (Awan & Akram, 2012; Kumar & Rose, 2010). Abbasi, Rehman and Afsar (2009) claimed that IWE helps organization to capitalize human resources better. Positive qualities of entrepreneurs derived from IWE such as hard work, commitment, enthusiasm to work, work creativity, cooperation and just (Kumar & Rose, 2010) will enhance organizational propensity in its innovation process and technical exercise, thus attain competitive advantage.

5. Conclusion

Islam has provided guiding principles for all human activities and also advocates and enlightens business ethical values. Thus, the integration of IWE in IC will uphold the Islamic teachings and warrant success in the business organization. IC is accepted as one of the most essential assets for organization to obtain competitive benefit. Above all, SME Muslim entrepreneurs should understand that they are required to carry out IWE as inculcated in Al-Quran and Hadith. Proper integration of IWE in IC can ensure satisfaction of all stakeholders of the business organization as their ultimate desire is to gain competitive advantage and business profitability.

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Examining the Relationship between Psychological Capital and Entrepreneurial Intention: An Exploratory Study

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Abstract

The aim of this study is determine if Entrepreneurial Intention is related to Psychological Capital in business students. Self-efficacy, Hope, Optimism and Resiliency, which are all dimensions of psychological capital, were assessed with the General Self-Efficacy Scale (GSE), the Hope Scale (HS), the Life Orientation Test Revised (LOT-R) and the Resilience Scale (RS), respectively. The Entrepreneurial Intention was assessed through five statements. According to the results, Entrepreneurial Intention is related to all dimensions of Psychological Capital, mainly with Self-efficacy and Resilience. Psychological Capital as an integrated construct was related to Entrepreneurial Intention as a whole. These findings provide additional evidence about the importance to study Psychological capital as an integrated construct instead of studying its dimensions separately, even more so when studied in relation to Entrepreneurial Intention. In spite of the advances in the knowledge about the individual differences related to entrepreneurial intentions, it is necessary to continue studying this phenomenon, considering that the results are still scarce and inconclusive.

Keywords: Entrepreneurial Intention, Psychological Capital, Self-efficacy, Hope, Optimism and Resiliency, Entrepreneurship in Business Students

1. Introduction

Entrepreneurship has been object of many academic studies that have included different approaches; nevertheless, it is not sufficiently known what kind of personal factors are related to entrepreneurial intention. It has been associated with social, economic and family conditions, however the psychological characteristics of people who intend to start a new company have not received the same attention. Among these personal features is Psychological Capital, which is defined as a positive psychological state of development, characterized by self-efficacy, hope, optimism and resiliency (Luthans, 2002). Among individual variables that have shown to be related to entrepreneurial behavior are: being a determinate person (Kim-Soon, Ahmad, Saberi, & Tat, 2013), having a tendency to short-term risk taking (Zhang, Wang, & Owen, 2015) and having high necessity for achievement (Mat, Maat, & Mohd, 2015).

It is well known from social psychology, that intention is an accurate predictor of planned behavior. This variable is relevant since it has been found that people with higher entrepreneurial potential usually have more entrepreneurial intentions (Jakopec, Miljković Krečar, & Sušan, 2013). There is evidence that entrepreneurial intention depends on the individual's attitude toward entrepreneurship (Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2012), perceived family expectations and beliefs to assume this kind of behavior, perceived behavioral control and perceived ability to execute the intended behavior of entrepreneurship, thus, entrepreneurial behaviour can be predicted accurately, by studying the intention (Krueger, Reilly & Carsrud, 2000). Likewise, entrepreneurship depends on the external circumstances such as socio-economic variables (Hessels, van Gelderen & Thurik, 2008; Jolonch & Ferreira, 2016), for instance, perceived poverty seems to stimulate entrepreneurial intentions (Chen, Shen, Naznin, Wang, & Wu, 2014). Other authors have found a relation between entrepreneurship and family members who have been entrepreneurs (Ahmed et al., 2010; Singh & DeNoble, 2003). However, the individual differences, which could have influence on entrepreneurship, remain unclear (Wilson, Marlino, & Kickul, 2004).

Although there are other variables studied in relation to entrepreneurial behavior, its findings have been inconsistent. For instance, some studies have been conducted to assess the role of the education in entrepreneurial behavior and they found that this variable had a beneficial effect for nascent entrepreneurs (Rotefoss & Kolvereid, 2005) and is perceived as necessary and desirable by the students (Guyen, 2013). On the contrary, others have demonstrated that entrepreneurship education is not relevant (Ahmed et al., 2010). Without denying the importance of the context and the opportunities mentioned before, this study is addressed to understand, from a psychological approach, if the entrepreneurial intention is related to Psychological Capital (PsyCap) in undergraduate students, who are currently studying their last semesters of business administration.

PsyCap is considered a state-like capacity, which means that it is changeable, potentially malleable and open to development (Luthans, 2002). Psychological Capital is about one's beliefs and the perception of one's abilities (Caza, Bagozzi, Woolley, Levy, & Barker, 2010; Bandura & Locke, 2003); it turns out to have a strong effect on performance, even on an operational level (Luthans, Avolio, Walumba, & Li, 2005).

PsyCap is defined as an individual's positive psychological state of development, which is characterized by four variables viz. self-efficacy, hope, optimism and resiliency (Luthans, 2002). This construct evolved over the years; the most consistent form comprises all of these as State-Like Psychological Resource Capacities (Luthans & Youssef, 2007). These four dimensions have been studied in organizational settings, and they are providing evidence concerning the influence in diverse work-related performance dimensions.

Self-efficacy in the workplace is defined as "one's conviction (or confidence) about his or her abilities to mobilize motivation, cognitive resources and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998, p. 66). Self-efficacy refers to the confidence in one's abilities to mobilize and move towards a set of goals (Luthans & Youssef, 2007). It is a form of self evaluation and leads to social comparison (Steyn & Mynhardt, 2007). Some authors point that this construct turns out to be stable, even though considered a state (Avey, Luthans & Mhatre, 2008). Self-efficacy is the variable of PsyCap that is more sustained and measured as a state (Bandura, 1997), which means that it is potentially developable (Luthans, Avey, Avolio, Norman, & Combs, 2006).

The relation between self-efficacy and entrepreneurial behavior has been widely established (Chandler & Jansen, 1997; Chen, Greene, & Crick, 1998). This association could be due to the fact that self-efficacy is operationally defined in terms of challenging self-set goals, self-directed initiatives, self-motivation and perseverance, amongst others (Stajkovic & Luthans, 1998), all of them related to entrepreneurial behavior and intention. Likewise, it may assert that self-efficacy is linked to entrepreneurial intentions (Boissin, Branchet, Emin, & Herbert, 2009), and it is a significant predictor of entrepreneurial intentions (Moriani et al., 2012; Mat et al., 2015). Zhao, Seibert and Hills (2005), argue that previous experience, risk propensity and formation have an influence on both intentions and self-efficacy as an entrepreneur, as this is about beliefs and perceptions. Foremost, the first step towards creating a company is to believe in one's capabilities to do so. This seems to be more usual in men than in women, in fact, research shows that one of the most important constraints in women entrepreneurs is their tendency to develop less management experience and business skills than men (Heilbrunn, 2004). This might be due to the fact that in business women tend to be subordinate to men, which may cause dynamics that avoids for women create their own companies (Hovorka & Dietrich, 2011).

On the other hand, the relevance of hope and its impact on performance outcomes have been widely established in the workplace (Luthans & Youssef, 2007). Hope is defined as a positive motivational state that is based on an interactively derived sense of success (agency and pathways) (Snyder, Irving, & Anderson, 1991). There are some similarities amongst this concept and the previously cited self-efficacy, although hope involves goal-directed motivations. This manifests in behaviors, of which some could be related to entrepreneurship. However, hope focuses on a different set of mechanisms through which goals are accomplished than self-efficacy; one of these is the sense of agency or internalized control that creates the determination and motivation (willpower) to accomplish one's goals. The other characteristic is the agency-principle, i.e., finding goals and pathways towards those goals (Snyder et al., 2000; Luthans, Norman, Avolio, & Avey, 2008). Jensen and Luthans (2002) found a relationship between entrepreneurs' hope and their satisfaction with business ownership. More recently it has been observed that hope is an important predictor of entrepreneurial intention (Laguna, 2006).

According to Seligman (1998), optimism is an attributional style that explains positive events through personal, permanent and pervasive causes and negative events through external, temporary, and situation-specific ones. This is confirmed by Jackson, (2009) who also argues that optimism is related to internal attribution to positive events could occur. In some way, like self-efficacy and hope, optimism is used to seek and achieve goals that are

valuable for the individual (Luthans & Youssef, 2007), therefore it could also potentially be used to predict leadership behavior and intention (Chemers, Watson, & May, 2000). In fact, Laguna (2006) found that optimism constitutes an important predictor of entrepreneurial intention. In contrast to the other PsyCap variables, optimism incorporates other personal dimensions, such as cognitive, emotional, and motivational components (Seligman & Csikszentmihalyi, 2000).

Finally, resiliency is about positive coping and adapting, being able to rebound (Luthans et al., 2008). Luthans (2002) defines resiliency as the capacity to rebound from adversity, conflict, failure, or even positive events that allow people to progress and to increase responsibilities. In this order of ideas, some events could be viewed as opportunities for learning, growing and developing by resilient people or as a threat by those that lack resiliency (Luthans, Youssef, & Avolio, 2007).

In sum, it seems that having high level of positive psychological resources, such as self-efficacy, optimism, resilience and hope, the entrepreneur may be more able to focus on gains, to persist in the face of adversities, and to successfully move on through the phases of the entrepreneurial process (Gorgievsky & Laguna, 2008). According to the above exposition, the aim of this study is to determine if entrepreneurial intention is related to variables of Psychological Capital.

2. Methodology

2.1 Participants

The data for this study came from 109 students of the last year of business studies, who were asked to participate voluntarily in this study. The sample was composed of male and female students (32% and 68% respectively), with an average of 21.86 years old (1.88 SD).

2.2 Procedure

Previous to participation the students were informed and asked for their consent, the participants were to fulfill the questionnaires. The total average time that students spent filling in the questionnaires was 30 minutes. The applications were collectively invited in groups of about 20 people.

2.3 Measures

2.3.1 Views on Self-employment

To assess entrepreneurial intention, we used a questionnaire composed of 5 statements, designed by Singh and DeNoble (2003). According to these authors, the questionnaire has demonstrated an adequate internal reliability and consistency for all five statements (0.86). Respondents had to indicate if they agree with statement or not (answer Yes/Not).

2.3.2 General Self-efficacy Scale (GSE)

This scale is composed of 10 items with 4-point Likert scale. This scale was designed to assess self-efficacy as a general disposition of personality. According to its authors, "General self-efficacy" is the belief in one's competence to cope with a broad range of stressful or challenging demands (Baessler & Schwarzer, 1996), whereas specific self-efficacy is constrained to a particular task at hand. The GSE was originally created in Germany by Jerusalem & Schwarzer in 1981, used and validated in several researches around the world (Schwarzer, Baessler, Kwiatek, Schröder, & Zhang, 1997). The GSE had been translated in different languages preserving its high internal consistency (Cronbach's alpha, between 0.79 and 0.93) and high convergent and discriminant reliability. In general, the questionnaire has shown good psychometrical properties (Juarez & Contreras, 2008)

2.3.3 Hope Scale (HS)

This scale of eight items with Likert scale of 8 points, was developed and validated by Snyder, et al., (1996). The HS has demonstrated an adequate internal reliability for the overall scale (Cronbach's alpha from 0.90 to 0.95) as well as for the subscales (Cronbach's alpha 0.90). The factorial structure and discriminant validity have also shown to be adequate (Feldman & Snyder, 2000).

2.3.4 Life Orientation Test Revised (LOT-R)

This instrument was designed to evaluate dispositional optimism or personal expectations about the good events that could happen in the future. This questionnaire consisted of 10 items, of which 4 were neutral; these were rated to a 5-point scale. It has shown high internal consistency (0.78) and its reliability index is 0.67 (Scheier, Carver & Bridges, 1994). The LOT-R has been applied and validated in university students, showing a reliability of 0.68 (Ferrando, Chico, & Tous, 2002).

2.3.5 Resilience scale (RS)

This scale of 25 items and 7-point scale measurement was developed by Wagnild and Young (1993) in order to assess the personal qualities that allow individuals to adapt to new circumstances, which is the capacity to be resilient. RS has demonstrated a high internal consistency (Cronbach’s alpha 0.93) (Heileman, Lee, & Kury, 2003).

3. Results

According to the results, the General Self-Efficacy Scale, Hope Scale and Resilience Scale shown adequate reliability values (Cronbach’s alpha .76, .77 and .78 respectively), all of those values are above the accepted standards (.70). Although the Cronbach’s alpha of Life Orientation Test was slightly lower than this reference value (.64), it may assert that it is a consistent measurement as well.

Entrepreneurial Intention was estimated through Views on Self-employment questionnaire. In general, the results point out a high intention among the students involved in the study. The affirmative answer in each item is presented in the Table 1.

Table 1. Affirmative responses to each item in the Views on Self-employment Scale

Items	Views on self-employment	Yes (%)
Entrepreneur 1	I intend to become self-employed	78.90%
Entrepreneur 2	I have the ability to recognize ideas for self-employment	85.32%
Entrepreneur 3	I have the ability to run a business	92.66%
Entrepreneur 4	In addition to school/work I would devote my free time to further researching and planning my own business	72.48%
Entrepreneur 5	I feel confident enough to quit a secure job in large corporation and start my own business	75.23%

Psychological Capital dimensions were estimated and re-scaled from 0 to 100 through lineal transformation in order to have the same range in each questionnaire, allowing the comparison between variables. The results of the participants shown high personal resources, getting an average score in the psychological capital scales above 66 points (Table 2).

Table 2. Descriptive Statistics of Psychological Capital (n=109)

Psychological Capital	Minimum	Maximum	M(SD)
Self-efficacy	47	100	73.61 (10.96)
Optimism	33	96	66.12 (13.37)
Hope	38	93	73.26 (11.40)
Resilience	41	96	72.39 (10.04)

Subsequently, the relation of the Psychological Capital dimension and Entrepreneurial intention were estimated through a point biserial correlation by Pearson correlation approach. The results all dimensions of psychological capital demonstrated to be related to the last three items of entrepreneurial intention (Entrepreneur 3, 4 and 5); in contrast, Entrepreneur 1 and 2 are not related. Regarding the PsyCap dimensions, the results showed that Resilience and Self-efficacy are most related to entrepreneurial intention. Optimism showed to have a lesser relation and mainly with entrepreneur 3 and 5. Finally Hope showed to have a weaker relation to entrepreneurial intention (Only with entrepreneur 5). In Table 3 the values of correlation’s coefficients can be observed (Table 3).

Table 3. Correlations among Psychological Capital and Entrepreneurial Intentions

	Self-efficacy	Optimism	Hope	Resilience
Entrepreneur 1	.086 (.372)	.118 (.222)	.131 (.176)	.150 (.118)
Entrepreneur 2	.091 (.345)	-.024 (.801)	.068 (.480)	.046 (.634)
Entrepreneur 3	.196* (.041)	.281** (.003)	.159 (.100)	.205* (.033)
Entrepreneur 4	.239* (.012)	.121 (.209)	.135 (.161)	.242* (.011)
Entrepreneur 5	.211* (.028)	.331** (.000)	.271** (.004)	.324** (.001)

Note: Values are Pearson Correlation (Sig. 2-tailed)

Finally, the relationship between PsyCap and Entrepreneurial Intention as a whole was estimated through structural equations model. The maximum likelihood estimate model was used (Figure 1).

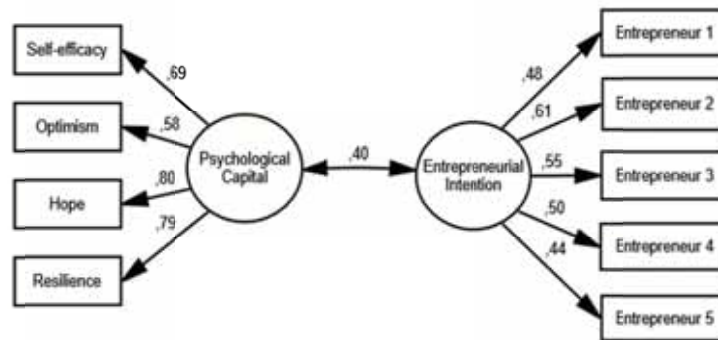


Figure 1. Relationship of Psychological Capital and Entrepreneurial Intentions in business students.

Note: Maximum Likelihood Model. Standardized estimates. Model Adjustment: CMIN/DF= 1.379; GFI = .935; CFI = .952 and RMSEA = 0.059

As it can be observed, the fit of the model estimations was highly satisfactory, considering the adjusted values obtained. The Goodness-of-Fit Index (GFI) and the Comparative Fit Index (CFI) were above .90 in both cases, which means that the model has a good adjustment. Moreover, the Chi-square value compared to its associated degrees of freedom (CMIN/DF) is below 3, which is the reference value. Besides, the Root Mean Square Error of Approximation (RMSEA) was below the reference value (0.08) as well. All these fit indexes demonstrated the robustness of the resultant research model in a significant way.

According to the model obtained, it is possible to assert that PsyCap and Entrepreneurial intention, as constructs, can be explained by its components. In the case of PsyCap, Hope and Resilience have more explicative capacity than others. By contrast, Entrepreneurial intentions can be explained in a similar way by its variables. Finally, it is possible to assert that PsyCap and Entrepreneurial Intentions are related, according to the evidence concerning the research objective.

Finally, another important finding obtained by this research is that PsyCap and Entrepreneurial Intention are positive related in a reasonable way, indicating that it could be possible to encourage the entrepreneurial intention in students, through the improvement of their PsyCap, which can be managed at the universities. However, this was an exploratory research and more studies should be developed in order to expand the existent literature. Advances in this scarce field of study, will allow proposing programs of entrepreneurship addressed to business students.

4. Discussion

This research provides additional evidence about the individual characteristics that seem to exert influence on entrepreneurial intention, something that remains unclear and should be studied more (Wilson, et al., 2004). According to the results of this study, the questionnaires used were adequate to assess the psychological capital of students, however, in future studies, we suggest to use a more reliable scale to assess optimism. In general, it can be said that participants showed a high entrepreneurial intention and a positive individual attitude toward entrepreneurship, which has been related to the intention as well, according to previous findings (Moriano et al., 2012).

In order to assess the entrepreneurial intention, five items were used. It is interesting to notice that the item that obtained a lower score in this scale, was the item that involves behavior (entrepreneur 4), in other words, it went beyond the intention. This finding shows the difference between entrepreneurial intentions and actions related to entrepreneurship, for instance, those that may involve researching and planning a new business. In spite of the claim that entrepreneurial behavior can be predicted accurately by studying the intention (Krueger, et al., 2000), we suggest that future studies include a measurement of entrepreneurial actions beside entrepreneurial intention, in order to understand these notions separately.

Regarding the relation between PsyCap and entrepreneurial intention, the results of this study allow us to confirm that Resilience and Self-efficacy are most related to the items of entrepreneurial intention. Hope had less relation with the entrepreneurial intention items. Concerning Self-efficacy, these results confirm previous

findings obtained by several authors (Chandler & Jansen, 1997; Chen, et al., 1998; Boissin, et al., 2009). On the other hand, the relationship of entrepreneurial intention with both hope and optimism were not high.

Although entrepreneurial intention was assessed with five items, not all of them show the same relation to the PsyCap dimensions. Especially entrepreneur 5: "I feel confident enough to quit a secure job in large corporation and start my own business" was related to all four dimensions of PsyCap. This assertion involves the beliefs in one's own capacities, risk assumption, positive expectations about the future and so on, which are all personal resources or psychological capital. This result is related to entrepreneur 3: "I have the ability to run a business" which shows a relation to PsyCap dimensions except for Hope. If PsyCap could be understood as a source of entrepreneurial potential, then the people with more PsyCap will tend to have more intentions towards entrepreneurship. To this respect, there is evidence as reported for example by Jakopec et al. (2013) who found that people with higher entrepreneurial potential usually have more entrepreneurial intentions. These findings seem to indicate that there are individual characteristics that distinguish between entrepreneurs and non entrepreneurs (Kim-Soon et al., 2013; Zhang et al., 2015). This is something that needs to be studied more in order to provide additional evidence to understand entrepreneurial intention from the individual differences.

Finally, according to the resultant model, both constructs can be explained well by their components. Likewise, this research provides evidence regarding the relation between PsyCap and entrepreneurial intention. Although each dimension of PsyCap has a different relation to entrepreneurial intention, the construct as a whole acquired a moderate predictive capacity. This finding shows correspondence with others studies, which have demonstrated the predictive capacity of PsyCap dimensions but in a separate way. Likewise, entrepreneurial intention could be predicted by self-efficacy (Moriano et al., 2012), hope and optimism (Laguna, 2006). In conclusion, the current results provide evidence to support that psychological resources, such as self-efficacy, optimism, resilience and hope, which together conform the PsyCap, are related to entrepreneurship as was proposed by other authors.

This bond between PsyCap and Entrepreneurial Intention has important implications; one of this is that it is possible to encourage entrepreneurial intention in students through improving their PsyCap, which can be included in the education system, due to the fact that PsyCap is considered a capacity that can be developed as Luthans (2002) asserts. Although this is an exploratory study, the results provide evidence of the relation between PsyCap and entrepreneurial intention.

Finally, it is important considerer that the sample size was a limitation of this study as well as the sex of participants (most of them were women). In future studies we suggest increase the sample size and have a more balanced sample between men and women. Likewise, to have a more diverse sample of participants, including students from different academic backgrounds, due to entrepreneurship is not an exclusive activity of business students.

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Economic Analysis of the Latent Factors Related to the Nursing Shortage

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Abstract

The aim of the study was, to economically analyze o the latent factors related to nursing shortage at Cairo University Hospitals. **Research design:** A descriptive, methodological design was utilized. **Research Questions:** 1) Is the economic analysis of nursing shortage related to the actual auditing records of nursing data at Cairo University Hospitals (2011-2015). 2) What are the contributing factors leading to the nursing shortage at Cairo University Hospitals. 3) What are the economic recommendations for the present concerns related to nursing shortage. **Tools of data collection:** The researchers used auditing records related to nursing staff at mentioned area (2011-2015) and Questionnaire. Random sample of (N= 179). Cronbach's Alpha was 0.885. The finding revealed that nurses supply, mostly from Secondary School (84%). A critical demand for more nurses 30%-40% in certain units due to high work load. Most of the nurses were not satisfied about monitory compensation, participation in decision making and inadequate supplies.

Keywords: Economic analysis, Supply and demand, direct care hours, nursing shortage

1. Introduction

Nowadays, demand for nurses is greater than ever, the impact of the global nursing shortage is clear, nurses are stressed out and more likely to be dissatisfied with their jobs resulting of negative effects of the productivity and quality of nursing care (Aiken, Clarke, & Sloane, 2002). As such, the economic analysis is the only gate to find proper solution for this chronic problem, to concentrate the efforts of nurses motivation, gain autonomy, participate in decision making, staff development, fairly rewarded, flexibility in changing working assignment that are effectively satisfy nurses in different roles: Effective skill- mix, clarity of roles, utilize maximum skills, recruit and retain qualified nurses on the broader supply/demand planning framework (O'Connor et al., 2012).

While the supply of assistant nurses in Egypt were 2.70 per 1000 population, the baccalaureate nurses, were low 0.26 per 1000 population (WHO, 2006). Demand for nurses in developed countries expected to reduce the supply and stock of nursing staff in developing countries, shortages are likely to continue and even increase in the future. Action should be taken to raise the supply of Egyptian Nurses to meet the current demand. Nursing as profession challenging with increased acuity of patient, shortage of qualified nurses, limited resources and increased demand on the service (Elsayed, Sleem, & Elsayed, 2012). Generally, when the supply of nurses are inadequate to provide or maintain the required of Nursing Care, it could be defined as Nursing Shortage (Oulton, 2006; Toh et al., 2012). Adequate staffing ratios would improve the working environment which, would in turn retain good staff and increase the public satisfaction about the nursing profession.

Furthermore, Egyptian Nursing Syndicate Deputy stated that many hospitals in Egypt suffer from an inadequate nurses, the recent number of Nurses in Egypt (250,000 in 2014), the health care facilities in the country still needs additional supply between 30,000-40,000 of New Nurses to meet the increased demand of patient care (International Nursing Day, 2014). The chairman of the Egyptian Nursing Syndicate, requested governmental support to compensate nurses for illnesses, provide official positions for temporary nursing staff, and monetary compensation for night shift. Moreover, Egyptian nurses voiced out, in spite of the Latest salary adjustment and slight increase of nurses supply, nurses on duty still suffering from inadequate staff, and humiliation of nursing profession (International Nursing Day, 2014).

The total numbers of nurses registered in the nursing Syndicate in Egypt (2009-2010) approximately 238,000 nurses. Baccalaureate nursing graduates (1.10%), Technical Institute of Nursing (0.50%) and Secondary Technical Diploma school (98.40%). Types of nurses education in Egypt: (1) The under graduate nursing diploma after preparatory school - three years study, (2) undergraduate nursing diploma from technical institute - two years study and (3) Baccalaureate university education - four years study and one year internship. The Ministry of Higher Education is working on refining nursing syllabus and decreasing the level of education from three to two years; making a new nursing technical syllabus for practicing nurse (Egypt nursing profile, 2012).

Egyptian Population are: 81, 121, 000 (United Nations -New York, 2012). Nurse to population ratio in Egypt was about (1.3) nurses per 1000 population. While in Qatar (6.17) nurses per 1,000 population and in Jordan (3.3) nurses per 1,000 population. Furthermore the data from Organization of Economic Co-operation and Development (OECD), (2013), countries revealed that the nurse to population ratio in the United Kingdom was about (8.2) nurses per 1,000 population, slightly below the OECD average of (9.1) nurses per 1,000 population. According to the report from OECD, there were (16.6) nurses for 1,000 persons in Switzerland, (10.1) nurses for 1,000 persons in Australia, (8.8) nurses for 1,000 persons in the OECD countries, (8.6) nurses for 1,000 persons in UK, and only (1.7) nurses for 1,000 persons in Turkey (OECD, 2013).

Egypt, Yemen and Afghanistan, currently have the majority of nurses graduate are from secondary school, while all nurses in other countries have minimum of 2 years post-secondary education (OECD, 2014). The majority of nurses in Egypt (almost 90%) are secondary school nursing education and reflected to be deficient quality of nurse education internationally and by the region's standard; and certainly a severe, serious shortage of qualified nurses who have at least 2 years of post-high school education. Therefore, the shortage of qualified nurses in the Egyptian market in general is considered the highest due to poor funding for nursing university education. If the graduate from high school nursing in Egypt, will not be considered as nurses and the title of nurses is controlled only by the nurse' education who have at least 2 years of post-secondary/ high school education, then the ratio of (Egypt) drops to (0.18) nurses per 1000 population, which is an extremely low and poor ratio (El-Karmalawy, 2010).

1.1 Significance of the Study

The improvement of health care deeply relied on supply and demand factors of nurses. From the previous illustrated studies at Cairo University Hospitals, few studies handled the current topic. Therefore this study will be an opportunity to assess the latent reasons for shortage by examining the current supply, workload, nurse to patients ratio, nursing productivity, and related economic analysis.

1.2 Aim of the Study

The current study aimed to economically analyze the latent factors related to nursing shortage at Cairo University Hospitals.

1.3 Research Questions

To accomplish the goal of the research the following enquiries were voiced:

- 1- Is the economic analysis of nursing shortage related to the actual auditing records of nursing data at Cairo University Hospitals (2011-2015)?
- 2- What are the contributing factors leading to the nursing shortage at Cairo university hospitals?
- 3- What are the economic recommendations for the present concerns related to nursing shortage?

Theoretical Frame Work: Donabedian (1988) described three components of quality for the purpose of measurement which termed structure, process and outcome.

2. Subjects and Methods

2.1 Study Design

Descriptive, Methodological design was utilized in this study.

2.2 Sample

Study was divided into two parts; analytic part included the economic analysis of auditing records – Cairo University Hospitals. The second part was the contributing factors of nursing shortage questionnaire, (N=179) nurses were randomly selected.

2.3 Setting

Al-Manial university hospitals is affiliated to Cairo university hospitals providing health care to all admitted

patients from Egypt including upper & lower Egypt. The grand total number of beds in AL–Manial university hospitals are: 1391 beds located in the first, second and third floor with all medical specialties. Total number of beds in Al-Manial Bahary are (676) beds. Total number of nurses in Al-Manial Bahry are (189) nurses. Total number of beds in Kebly: (692) beds and the total number of nurses in kebly are (325) nurses. The grand total number of beds are 1391 including 23 ICUs bed Occupancy rate 104%. Nurses in all areas are: 454 nurses. Al-Manial university hospital divided into Three (3) areas: Al - Manial Bahry hospital, Al-Manial Kebly hospital and Operating theater (serving both areas).

The study was conducted at AL- Manial university hospitals at AL- Manial Bahary and El-Manial kebly, inpatient general medical and surgical units, intensive care units (ICU) and all specialties. This hospital is staffed with different categories of nurses (Baccalaureate, technical and diploma).

2.4 Tools of Data Collection

1-Computing data from auditing records including items related to nursing staffing and occupancy rate at Cairo University Hospitals (Nursing Administration, Statistical Medical Record Department and daily record of nursing staff sheet at Al- Manial Bahry and Kebly) (2011-2015).

2- Contributing factors of nursing shortage questionnaire adopted from (Gharib & Abdulwahab, 2013) consisted of two parts:

First part: Included the demographic data of the respondents such as: qualifications, gender, age, years of experience in nursing and years of experience.

Second part: Consisted of the items related to the following components of contributing factors related to nursing shortage included (30) items under four dimensions: (1) Staff benefits consisted of seven items, (2) Work environment consisted of nine items, (3) Communication consisted of four items, (4) Staff recognition consisted of ten items.

2.5 Scoring System

Five point likert scale was used to determine the degree of importance of the items in relation to the contributing factors of nursing shortage, (a) five indicates strongly agree, (b) four indicates agree, (c) three indicates neutral, (d) two indicates disagree and (e) one indicates strongly disagree (5 Likert scale).

Compute $(100 \times \text{Mean} / \text{Max Response}) = \text{Mean} \times 20$. The mean was computed for each item in both scales to give relative importance for each item.

Content validity and reliability

Tools had been translated into Arabic, necessary modification was done, content validity were established by an experts consisting of 2 professors of psychiatric nursing, 3 professors of nursing administration, Professor from Medical surgical nursing & Deputy director of institute (Medical). The reliability was high using all the 30 items of contributing factors related to nursing shortage. Cronbachs' alpha was 0.885.

2.6 Pilot Study

A pilot study was carried out on the questionnaire for 10% of staff nurses in the designated areas of this study to test the applicability and clarity of the questions of the study tools, estimated the time needed to complete the questionnaire, and to add or omit questions. According to the result of pilot study few modifications were done. The time of the study to answer the sheet was estimated as 20 to 25 minutes.

2.7 Ethical Consideration

The official permission obtained from hospital administration to conduct the study. Each participant was explained about the aim of the study, its benefits and has the right to withdraw at any time without penalty. Verbal consent obtained from the participants. Confidentiality are assured through giving code number for the data and no name required to mention on the questionnaire.

2.8 Procedure

Official permission was received from the General Medical Director and General Nursing Director of Al-Manial –Bahry & Kebly hospitals to carry out this study, after explanation of the aim of the study.

Procedures:

Primary phase: An official letter was approved to carry out the current study, Auditing data was collected and questionnaire was adopted. Nurses were interviewed personally by the investigators to explain the aim of the study and finally verbal consent was received.

Implementation phase: Data were collected from September until November, 2016. The researcher visited the selected areas on daily basis during break time and weekends. Each participant consumed 15-20 minutes to complete the questionnaire. The auditing data for economic analysis was received from the statistical center at Cairo University Hospitals and carefully analyzed.

2.9 Statistical Design

Descriptive and inferential statistics carried out for part (B). Cronbach's Alpha was used to determine reliability. Descriptive statistics such as frequency, mean, and standard deviation were utilized in analyzing the data presented in this study. Relative statistical tests of significance, correlation coefficient were used to identify the correlations among study variables. These tests were used to identify the significance of correlations among the study variables Spearman's rho Correlations.

3. Data Analysis

3.1 Part A

Table (1.1). Percentage distribution of nursing categories at Cairo University Hospitals (2011-2015)

Year	Faculty of Nursing	Percentage	3years nursing school	Percentage
2011	145	5.4	2339	87.43
2012	148	5.3	2344	84.32
2013	153	5.65	2285	84.35
2014	154	5.40	2350	82.46
2015	155	5.40	2362	82.39

Adopted from Cairo University Hospitals, Main management department (statistics and medical record)

Table (1.2). Percentage distribution of nursing categories at Cairo University Hospitals (2011-2015)

Year	Labor & delivery/ ass. nurses	Percentage	Nursing Institute	Percentage	Total
2011	72	2.69	119	4.45	2675
2012	108	3.88	180	3.88	2780
2013	94	3.47	177	6.53	2709
2014	83	2.9	263	9.23	2850
2015	38	1.33	312	10.88	2867

Adopted from Cairo University Hospitals, Main management department (statistics and medical record)

Table (2). Percentage distribution of Gender (female and male) graduate from three years nursing school diploma at Cairo University Hospitals (2011-2013)

Year	Female	Percentage	Male	Percentage	Total	Percentage
2011	2069	88.46	270	11.54	2339	33.4
2012	2070	88.31	274	11.69	2344	33.6
2013	2039	89.23	246	10.77	2285	33.0

Adopted from Cairo University Hospitals, Main management department (statistics and medical record). All data was obtained from Authors' calculations

Table (3). Percentage distribution of Occupancy rate in general wards at Al- Manial Bahry and Al - Manial Kebly (2011-2015)-Cairo University Hospitals

Year	Number of beds in Al-Manial Bahry (general units)	Occupancy rate in Al-Manial Bahry (general units)	Number of beds Al-Manial Kebly	Occupancy rate in Al-Manial Kebly (general units)
2011	709	107%	773	87%
2012	724	102%	724	102%
2013	760	87%	768	81%
2014	719	110%	753	98%
2015	676	110%	692	100%

Adopted from Cairo University Hospitals, Main management department (statistics and medical record)

Table (4.1). Percentage distribution of general unit capacity, occupancy rate, the current supply and demand of nurses. Using staffing demand formula

Inpatient Wards	Number of beds in each unit	Occupancy rate Percentage	Current nurses Supply	Actual number	Reasons	Demand-minimum standard	Percentage
Unit 6 (internal medicine)	24	68	11	11-3 (a)	Light work (a)	18	-38.89
Unit 19 (internal medicine)	44	115	15	15-1 (a)	Light work(a)	34	-55.88
Unit 28A (Surgery)	31	114	12	12-1 (a)	Light work(a)	25	-52
Unit 28B (Surgery)	30	114	13	13		24	-45.83
Unit 29A (surgery)	33	133	13	13-1 (b)	Sick leave(b)	26	-50
Unit 29B (Surgery)	34	133	9	9-1 (b)	Sick leave (b)	27	-66.67

All data was obtained from Authors' calculations

Table (4.2). Percentage distribution of general unit capacity, occupancy rate, the current supply and demand of nurses according to the previous staffing demand formula

Inpatient Wards	Number of beds in each unit	Occupancy rate Percentage	Current nurses Supply	Actual number	Reasons	Demand-minimum standard	Percentage
Unit 30A(Surgery)	26	51	11	11-1 (b)	Sick leave (b)	21	-47.62
Unit 30B(Surgery)	25	51	10	10-1(a)	Light work (a)	20	-50
Unit 31(internal medicine)	44	75	15	15-3 (a)	Light work (a)	34	-55.88
Unit 25A(Surgery)	27	122	11			21	-47.62
Unit 25B(Surgery)	28	122	9			22	-59.10
Unit 27A(surgery)	24	181	10			18	-44.44
Unit 27B(surgery)	26	181	9			21	-57.14
Total	428	107.6	198	185			

All data was obtained from Authors' calculations

N.B: a =Light work b =Sick leave c =absent

Table (5). Percentage distribution of ICUs; capacity, occupancy rate, the current supply and demand of nurses according to the previous staffing demand formula

Inpatient ICUs	Number of beds in each unit	Occupancy rate percent	Current nurses Supply	Actual number	Reasons	Demand-minimum standard	percent
MICU- 23	16	93	24	24-1 (c)	Absent (c)	42	-43
ICU -2	8	65	10			14	-29
ICU-3	8	103	16			22	-25

(Source: Personal contact with nursing administration department at Cairo university hospitals, 2016) and the staffing demand formula (adapted by researchers). All data was obtained from Authors' calculations.

3.2 Part B

3.2.1 Dimensions of Items

Table (6.1). Percentage distribution of the study sample according to: Staff benefits (N=179).

Items No.	Items of the study sample	Mean	Std. Deviation	RI(d)	Rank
1	My salary is a reflection of the work I do	1.49	0.09	29.8	7
2	My supervisor is concerned about my well being	2.48	0.94	49.6	5
3	I am satisfied with the vacation eligibility	3.08	1.16	61.6	2
4	The work schedule is planned in advance	3.95	1.15	79	1
5	No frequent changes in my work schedule	2.61	1.04	52.2	4
6	I am satisfied with the hospital compensations	2.20	0.97	44	6
7	I have enough time to finish my work	2.78	1.10	55.6	3
Staff benefits		2.656	.62886	53.12	

(d) RI = Compute (100 x Mean/Max Response = Mean x20 = relative importance percentage

Table (6.2). Percentage distribution of the study sample according to: Work environment (N=179).

Items No.	Items of the study sample	Mean	Std. Deviation	RI(d)	Rank
8	My patients are cooperative, they understand my work conditions	2.87	1.23	57.4	5
9	I am satisfied about the job security provided to me	3.30	1.33	66	3
10	I have enough support from my supervisor	2.72	1.13	54.4	6
11	The nursing supervisor is visible in the unit	3.49	1.07	69.8	2
12	Adequate amount of supplies are available for patient care	2.48	1.22	49.6	8
13	Hospital administration is keen to provide training for new staff	3.23	1.31	64.6	4
14	Hospital administration is keen to train the staff to operate new equipment	2.68	1.29	53.6	7
15	I am not intended to leave the hospital	3.23	1.33	49.6	9
16	I receive enough feedback from my supervisor on how well I am doing	3.52	1.153	70.4	1
Work environment		3.057	.7238	61.4	

Table (6.3). Percentage distribution of the study sample according to: Staff Communication (N=179).

Items No.	Items of the study sample	Mean	Std. Deviation	RI(d)	Rank
17	I have good working relationship with my colleagues.	4.06	1.00	81.2	1
18	There is a clear channel of communication at the work place	3.18	1.17	63.6	3
19	I have clear communication with patients	4.03	0.96	80.6	2
20	There is an atmosphere of co-operation between unit staff & hospital administration	2.66	1.32	53.2	4
Communication		3.483	0.82	69.66	

Table (6.4). Percentage distribution of the study sample according to: Staff recognition (N=179)

Items No.	Items of the study sample	Mean	Std. Deviation	RI(d)	Rank
21	Hospital administration is extremely fair in giving merit increase for all nurses.	1.73	1.15	34.6	8
22	I am entrusted with great responsibility in my work	3.91	1.10	78.2	1
23	I receive recognition for tasks well done	2.58	1.31	51.6	7
24	Hospital administration does involve staff in decision making	1.73	1.11	34.6	8
25	I can depend on my colleagues for support	3.28	1.13	65.6	2
26	My patients appreciate what I do for them	2.92	1.28	58.4	6
27	Doctors appreciate my work	2.92	1.28	58.4	6
28	I have sufficient opportunity to develop in my work (Nurses education)	3.25	1.17	65	3
29	There is a personal growth in my work (promotion)	3.00	1.20	60	5
30	I am satisfied with the delegated tasks assigned to me by the head nurse	3.07	1.43	61.4	4
Staff recognition		2.82	0.75	56.4	

4. Discussion

4.1 Part A

In Egypt the situation is very serious in providing adequate supply of nurses while the increased demand persist or critically increased. Action is badly needed by high authority people to raise the supply of qualified Egyptian nurses to meet the minimum current demand. Table (1.1&2.2) presented that the secondary level school had the highest supply of manpower at Cairo University Hospitals (87.43%) on year 2011-2015, statistics, This result is congruent with Sakr, 2006; El-Karmalawy, 2010 who stated that the supply of nurses from different categories of education and registered in the nursing Syndicate in Egypt (2009-2010) approximately 238,000 nurses - Secondary Technical Diploma school (98.40%). while the supply of nurses from technical institute were the least on the year 2011 (4.45%), increased on 2015 (10.88%) due to the awareness of the public of the newly opened institute. while the supply from Faculty of Nursing were (5.4%) this result confirmed that the supply of Bachelor Science of Nursing BSN or Baccalaureate degree nurses was not adequate to cover the severely demand of work. The Bureau of Labor and Statistics (2012), anticipated a nationwide BSN or baccalaureate degree of RN job vacancy of 1.2 million nurses after eight years. This prediction pointed out that nurse staffing will continue to become a major issue for all hospitals in all over the country.

While the assistant nurses were the least percentage (1.33%) on the year 2015, previously was (3.88%) as reflected in the same table and the number decreased yearly, may be due to the closing of assistant nurses schools-midwife (preparatory nurses school) to raise the level and quality of education in Egypt. Unfortunately this action forced the high authority people to supply of unlicensed nursing assistant personal as a replacement. Additionally the high demand for unlicensed nursing assistant due to the inadequate supply of nurses. A key issue in such assignment of tasks is a clear understanding of what constitutes professional nursing and which activities can be performed safely and appropriately by non-nurses under the supervision of registered nurses. Again the increase of BSN supply is badly needed in Egypt to supervise the secondary school nurses (manpower). Units with inadequate assistive personnel perceived lower staffing adequacy (Kalisch et al., 2011).

Table (2.0) reflected that the highest percentage of nurses were female (88.46%) on the year 2011 and (89.23%) on the year 2013. while the male nurses were (11.54%) on the year 2011 and (10.77%) on the year 2013. This data presented the gradual decrease of the supply of male nurses in spite of the demand of their service which grow more severe. Indeed the search for way out of nursing shortages has to emphasis on economic solution, most of male Nurses at Cairo University Hospitals are doing dual employment in private hospitals to support their families. The stigma related to nursing profession is reduced but still in the mind of uncivilized people. No statistical record for male nurses after the year 2013, this major problem of no data is making an obstruction for researchers to find solution. Additionally, there is no data about the economic risk as a result of nursing shortage in nursing administration department -Kasr Al- Ainy hospital e.g. Patient falls, pressure ulcer, hospital acquired infection etc. The American Nurses Association (ANA, 2014) well-defined Staff - Mix as the relation of Bachelor science of nursing (BSN) to the care hours of total nursing categories including certified practical nurses.

Table (3.0) reflected the variation of the Occupancy Rate at Al- Manial Bahry between 87% (year, 2013) and 110% (year, 2015) and the average occupancy rate for all units were more than the capacity of any unit (110%). While the occupancy rate in Al- Manial Kebly was 98% (year, 2014) and 100% (year, 2015). Cignarale and Proaño (2013) found that as an increase of the demand for patients admission were more than the number of hospital beds in the hospital, resulted on over census, or high occupancy rate, so bed assignment was needed to resolve the current problem of high occupancy rate. Hence this was a major problem for staffing, the head nurse or the charge nurse must be involved with admission department to make decision whether the assigned nurses can cope with additional admissions or do some internal movements to discharge more stable patients. The head nurse of the unit with the support of hospital administration can decide for no more admission or to suggest closing of some beds if the unit has inadequate staff, as stated by Mageshwari & Kanaga (2012) bed assignments primarily relying on the judgment of experienced head nurses and staffing situation.

Table (4.1&4.2) revealed that the occupancy rate exceeding the capacity in most of the units like unit 27 A and B (181%), followed by 29B (133%), unit 25A and B (122%), unit 31 (75%) and the least were 30 A and B (51%). The actual number of nurses were decreasing due to staff sickness, and light work for old staff. This was a complicated issue and need to be addressed to hospital administration because of high cost for replacement and unsafe practice. Moreover the finding in Table (4.1&4.2) revealed that the actual number of nurses at Cairo University Hospitals were further decreasing in some units due to staff sickness, absenteeism and light work for old staff, additionally the demand for nurses due to high occupancy rate (applied the staffing demand formula's previously mentioned with the required information. The result revealed that the current supply of nurses as seen

in Table (4.1&4.2) was not safe for patient care and the demand to replace the shortage (-40-50%) of the current nurses supply. Demand for nurses were in unit 6 was (-38.89%) while the maximum demand were in unit 19 (-55.88%). With the current study the inadequate nursing staff is not supported by any mean as stated by the Ministry of Employment and the Economy (2013) that the adequacy of nurses is the highest priority.

Many studies ascertain that the high nurse to patients ratio prevents incidents and risk of patient safety e.g. fall, infection, additionally the feeling of burnout of nurses (Aiken et al., 2002; Liu et al., 2012). Staffing of nursing department is simply calculated as total NURSING CARE HOURS PER PATIENT DAY (ANA, 2014).

The result of the computed staffing of ICUs Table (5) revealed that the actual number of staff, and the nursing hours per patient per day NHPPD were critically dangerous and not safe for patient care as seen in the following results: According to the nurses' schedule 4 nurses are left in ICU to take care of 16 patients (12 hours duty on days):

NHPPD= (4x12) divided by 16 = 3 full time nurses from secondary school nursing diploma and one nursing assistant. With the level of nurses qualification. They are considered assistant nurses and need close supervision for their practice.

The following Formula was used for Calculating Demand for nurses in- inpatient departments after computing (HPPD). Calculating Demand for nurses in- inpatient departments:

$$\frac{(\text{Daily hours of nursing care} \times \text{average daily census}) \times (\text{days per years})}{(\text{Days per year} - \text{expected off duty days per year}) \times (\text{daily duty hours})} = \text{full time Equivalent nurses}$$

The result revealed that Cairo University Hospitals were not in compliance with the minimum standard of staffing ratios. Proposal, would require 30%-40% an increase of nurses supply in certain units as a minimum for this current budget to increase nurse to- patient' ratio. Hence the supply of nurses at Cairo University Hospitals were mostly secondary school nursing graduate reflecting the lack of nurse education, nurse skills, and nurse knowledge, as a major obstruction of young persons to seek out nursing education, by improving this situation, nurse retention and satisfaction certainly will occur (Tervo-Heikkinen et al., 2008).

4.2 Part B

In the current study (Part A), the economic analysis of the auditing data answered the first research question. While Table (6.1) in current study presented that both monetary compensation (44%) and the salary (29.8%) of the nurses were the least relative importance. This result was in congruent with (Aiken et al., 2013) who reported that the level of nurses dissatisfaction with their job was wages, ranged from 22–60% and in agreement with the result in China Liu et al. (2012a); Zhang et al. (2013) who reported high levels of nurses job dissatisfaction (45–54%). This finding of the current study is inconsistent with (Fung-kam, 1998) who found, salary was valued as the least satisfactory in developed countries like USA, Ireland and Australia. The current study had the highest relative importance of nurses agreement (79%), about the work schedule planned in advance this result is supported with Butler et al. (2009) who found that a positive relationship between non -rigid schedules in performing tasks and the job satisfaction of nurses.

Table (6.2) presented (70.4%) nurses receive feedback from the supervisor in relation to staff performance, was the highest rank of relative importance, This result is congruent with Masroor & Fakiry (2009) who found, the respondents appear to have moderate agreement with their supervisor, with the respect to the feedback they receive about the job performance. Kumar (2011) reported that the performance appraisal is an important technique for improving the performance of an organization, it helps employees to improve their performance by giving specific feedback about the need for development, and helps employees to continue to excel by giving positive reinforcement that can motivate them. While in the same Table (6.2) the nursing supervisor is visible in the unit (69.8%), Huseman's (2009) who found the visibility of the supervisor in the unit has a great support to the nurses. Table (6.2) presented that (49.6%) of nurses had no intention to leave the hospital. The staff nurses with secondary school nursing diploma at Cairo University Hospitals may had no opportunity to join the work in private hospitals due to their qualification or because of the job stability and security. This result of the present study in agreement with other studies done in Governmental Hospitals by Hassan (1999); Amer & Fekry (2011), who reported that the majority of nurses at Alexandria Main hospital and Cairo university hospital respectively, they remain in the organization because they need to. Regarding the availability of supplies for patient care (49.6%), it could be that nursing manager was not actively participated in the hospital budget or not keen to request enough supplies for patient care. This result is similar with Pillay (2008) who presented that the participants were dissatisfied with the resources. The input of supplies and equipment's costs can be controlled by the wise storage and use of supplies and equipment. One method is to compare the cost and features of

roughly equivalent supplies and equipment, selecting products that have the desired qualities at the lowest cost. Nurse managers in a need to receive monthly reports that note variances between actual charges received and items charged to the unit's supply, discrepancies should be investigated and corrected.

Table (6.3) presented that the highest relative importance was the good working relationship with colleagues (81.2%). The current study clarified that nurses were satisfied about the working relationship with colleagues. This findings indicate that nurse's perceived level of satisfaction with co-workers and patient communication. The findings are in agreement with Masroor and Fakir (2009) and also in consistent with Shader et al. (2001), who pointed out that colleagues cooperation in performing tasks, will certainly improve the moral at work and creating positive and harmonious environment for improving staff retention. While, the clear communication with patients was (80.6%) it could be due to the long service of the nurses which positively effect on nurses communication. This result is congruent with Kekana et al. (2007), who found the social aspects of the job was a strong predictor of job satisfaction. The least relative importance was the atmosphere of co-operation between unit staff & hospital administration (53.2%). Many researchers presented the benefits of close interpersonal communication and concluded that an employee perceives job achievement by the support coworker's friendly attitude and behavior (Laschinger &Manojlovich, 2007). Furthermore nurses may find difficulty to be retained in the job not only in relation to patient care but in their relationships with the physicians, and peers who impact the job. This result of the current study differs from the result of Rahmani (2007) who reported that half of the employees in Indonesia had poor relationships with their coworkers. Nursing administration need to encourage nurses for positive communication and cooperation at work. Thus, certainly promotion of the teamwork will build a trust within the nursing team and may result of positive outcomes of patient care. Therefore the heavy workload, permanent night duty and poor interpersonal communication certainly lead to job dissatisfaction (Lu et al., 2005).

Table (6.4) Clarified that the good working relationship with colleagues and feeling of trust at work were the highest relative importance of nurses agreement (78.2%) nurses were happy with their additional responsibilities of delegated tasks assigned to them. Followed by colleagues support (65.6%), while the least relative importance were the fairness in giving the merit increase and involvement of nurses in decision making both were (34.6%). This result in agreement with Ayers (2005) who found that most of the participants were not satisfied due to lack of staff involvement in decision-making. Nursing profession is rewarding when the nurse have the chance to voice out all concerns related to the nursing tasks in the workplace and feel satisfaction like other health professionals in making decision and receiving recognition for accomplishments. The current result was similar to a study by Gigantesco et al. (2003) in Rome, who found few staff participated in decision making. Analysis of the different items under different dimensions of the contributing factors for nursing shortage reflected that hospital compensation, merit increase, nurses participation in decision making, and availability of supplies in the unit, were not meeting the expectations of the staff nurses.

In summary creating appreciation policy can promote nurses morale as a credit for nurses' participation in best practice and decision making. Thus will facilitate the sense of work participation and promote healthy environment among nurses. Further, top management team should revise the monetary compensation policy for nurses who accepted more responsibilities. All arrangements will certainly increase staff retention at Cairo University hospitals. To enhance staff motivation "something is given and something is returned" (Cropanzano and Mitchell 2005). The key to motivating hospital' nurses is to listen to the nurses to know what motivate them and establish a motivation program based on those needs. Based on the findings recommendation and suggestions for hospital managers are presented.

5. Recommendations

In general, specifically in Egypt, the shortage of nurses can be solved by changing the staff attitude towards the nursing profession, recruit nurses who are willing to help patients under difficult circumstances or situations. The policy makers under the hospital administration to find solution to stop the following habits of abuse: Dual practice, absenteeism, doing non-nursing job etc. more researches are required in such field. The following recommendations are proposed:

1. Monetary compensation for extended hours and overtime pay are required to be revised by high authority people.
2. Nurses satisfaction survey to be done regularly
3. Bed assignment to avoid high occupancy rate, which create work overload for nurses and may jeopardize patient care.

4. The policy for incentives should be revised and fairly implemented all over the place based on the performance evaluation.
5. In-service education about time management are required for maximum utilization of nurses time.
6. Nurses who are graduated from secondary school diploma should be supervised.
7. Promote the nursing profession for male nurses.
8. Nursing administrators to motivate nurses to focus on a specific field of clinical specialty in nursing practice, as potential for promotion e.g. some nurses at Cairo University Hospitals taking their work time to join a study in non-nursing field this ended in changing their career and stock loss.
9. Promotes staff development in nursing field. Staff who are granted light work and included in the numbers, creating more load on the rest of the nurses, urgent solution for this inherited problem.
10. Float policy, over time policy, monetary compensation policy are required to be made and implemented in the place.
11. To improve the supply and availability of qualified nurses. In the past, nursing shortages have been “solved” by having “more nurses” the emphasis needs to be shifted to having “more effective nursing”
12. Bed assignment is needed to avoid high occupancy rate and the demand for nurses. Establish transparent data and information about the economic risk as a result of nursing shortage in Kasr Al- Ainy hospital e.g. no available data about: Patient falls, pressure ulcer, hospital acquired infection ect.

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Appendix

Nursing Questionnaire

Kindly help us in completing this questionnaire to achieve our goal. Anonymity of the information given will be used for research study. The information collected will be held in complete confidentiality.

Code no.....

Please tick the appropriate box:

Gender: Male

Female

Marital status:

Married

Single

Level of education:

Nursing secondary school diploma

Nursing institute diploma

Baccalaureate of nursing

Experience:

Less than 5 years 5-<10years 10-<15 years 15-<20 years 20 years and more

Kindly decide how you feel about the aspect of your job satisfaction described by the statement and tick the appropriate box as a reflection of your degree of satisfaction.

Serial No.	Staff benefits	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1	My salary is a reflection of the work I do					
2	My supervisor is concerned about my well being					
3	I am satisfied with the vacation eligibility					
4	The work schedule is planned in advance					
5	No frequent changes in my work schedule					
6	I am satisfied with the hospital compensations					
7	I have enough time to finish my work					
	Work environment	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
8	My patients are cooperative, they understand my work conditions					
9	I am satisfied about the security of my job provided to me					
10	I have enough support from my supervisor					
11	The nursing supervisor is visible in the unit					
12	Adequate amount of supplies are available for patient care					
13	Hospital administration is keen to provide training for new staff					

14	Hospital administration is keen to train the staff to operate new equipment					
15	I am not intended to leave the hospital					
16	I receive enough feedback from my supervisor on how well I am doing					
	Communication	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
17	I have good working relationship with my colleagues.					
18	There is a clear channel of communication at the work place					
19	I have clear communication with patients					
20	There is an atmosphere of co-operation between unit staff & hospital administration					
	Staff recognition	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
21	Hospital administration is extremely fair in giving merit increase for all nurses.					
22	I am entrusted with great responsibility in my work					
23	I receive recognition for tasks well done					
24	Hospital administration does involve staff in decision making					
25	I can depend on my colleagues for support					
26	My patients appreciate what I do for them					
27	Doctors appreciate my work					
28	I have sufficient opportunity to develop in my work (Nurses education)					
29	There is a personal growth in my work (promotion)					
30	I am satisfied with the delegated tasks assigned to me by the head nurse					

Thank you for your assistance in this research project.

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The Influence of Transformational Leadership Behaviours on Oman Public Employees' Work Performance

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Abstract

The purpose of this paper is to investigate the influence of transformational leadership behaviors work performance in the context of Omani governmental organizations. The research emphasizes that transformational leadership is a crucial element to enhance employees' performance. Transformational leadership Inventory was used to measure transformational leadership behaviors. Contextual and task performance were used to measure work performance. Quantitative survey method was applied and a sample of 335 middle-level managers of Omani public civil service organizations was selected to answer the instrument. Analysis of Moment Structures (AMOS) was utilized to analyse the collected data and test the research questions, and hypotheses. The techniques of data analysis comprised descriptive statistics, a Confirmatory Factor Analysis (CFA), and a Structural Equation Modeling (SEM) analysis. The empirical results indicate that transformational leadership behaviours (core transformational leadership, providing individualized supports, intellectual stimulation, and setting high performance expectation) have a significant impact on contextual performance. Whereas, core transformational leadership and providing individualized supports have a significant impact on task performance.

Keywords: Contextual performance, Oman, Public organization, Task performance, Transformational Leadership behaviors, Work performance

1. Introduction

In recent years, organizations have been living in an era where change becomes inevitable, and they are operating dynamically, which, in turn, require a very quick response to the fast movement in business domain. The challenge of performance improvement in organizations has intensified along with the struggle to supervise the quality of the workplace and globalization, international trade, the rising expectation of citizens, and accelerated competition among organizations all have led to organizations' focusing, particularly, on the quality within the contexts of the past few decades (Akdere, 2006). Organizations have different sources distinguish them from their competitors; some of these sources are the leader's ability to fuse organization production skills and new technologies into practice that empowers specific entities to familiarize the rapidly changed chances (Hamel & Prahalad, 1990).

Transformational leaders influence followers and drive organizational changes by promoting process values such as honesty, loyalty, and fairness, while emphasizing the end values of justice, equality, and human rights (Mendonca, 2001). Transformational leaders raise their subordinates' emotions instead of depending on rational process to motivate them (Moss & Ritossa, 2007). Leaders have positive effects on their subordinates by creating a sense of attachment to the job, being fair, and recognizing good performance (Macey & Schneider, 2008).

Indeed, all over the world public organizations face numerous challenges and obstacles to be more responsive to the needs of citizens (Nusair *et al.*, 2012). Oman is no exception; after raising expectation of Omani citizens, the Omani government has encouraged Omani public organizations to develop and enhance their performance (Ministry of Civil Service, 2012).

Earlier researcher (Ali *et al.*, 2014; Dvir *et al.*, 2002; Givens, 2011; Joo & Lim, 2013; Jose & Mampilly, 2014; Lee *et al.*, 2007; Manaf & Latif, 2014; Miao *et al.*, 2012; Tuuli & Rowlinson, 2009; Yıldız *et al.*, 2014) revealed that, there are numerous factors may impact employees' work performance, for instance, Job satisfaction, adoptability culture trait, social structure and psychological empowerment, employee work engagement,

organization commitment, and leadership.

No doubt, leaders are committed to handle the demand of changes that arise from both the inside and outside organizations (Kouzes & Posner, 2003). Multiple researchers and practitioners have stressed that leaders have to foster the acceptance of group goals and support group goals by encouraging subordinates to work together toward the achievement of their organizations' objectives (Bennis & Nanus, 1985; Podsakoff *et al.*, 1990).

Al Zefeiti and Mohamad (2015) suggest that effective leaders who have appropriate proficiency is needed in Omani organizations to deal with unpredictable events that may occasionally arise to increase their employees' performance. However, researchers argue that there remains a gap in leadership literature specifically in Middle East and North Africa (Mendenhall *et al.*, 2008; Pless *et al.*, 2011; Rao & Abdul, 2015).

2. Problem Statement

Public organizations take a leading role in providing the best services to the community such as, health services, educational services, transportation and communications, and housing services. However if they want to be more successful, they need to response very quick to the fast movement in business domain by clearly encourage and foster subordinates' performance. Leadership is a crucial factor that may have considerable influence on work performance (Yukl, 1998). Therefore, public sector needs professional leaders to achieve organizational goals and objectives.

Previous research has devoted a great deal of attention to the relationship between leadership and work performance. The findings in this area, however, are not entirely consistent Therefore, the relationship between transformational leadership and work performance has attracted considerable interest from both practitioners and academics. Much of the interest on these variables is based on the outcomes of the previous researches which have revealed that these concepts may have an influence on the organizational goals (Khan *et al.*, 2013; Yousef, 2000).

Yet, there is limited research investigating leadership within public sector organizations (AlKindy *et al.*, 2016; Andersen, 2010; Fernandez *et al.*, 2010; Teelken *et al.*, 2012). Although incredible achievements were recorded by previous research, emphasizing the overall significance of transformational leadership in enhancing employees' work performances; there is also considerable reported research that calls for the needs to examine individual transformational leadership dimensions (Deinert *et al.*, 2015). More specifically, there is a lack of studies that investigated the influence of transformational leadership behaviours demonstrated by Omani top managers level and how that impact employees' work performance. This study, therefore, is unique as it will help to address this issue in an effort to improve the understanding of the influence of transformational leadership on employees' work performance in Arabian Gulf Countries in general and in Omani setting in particular.

3. Research Objective

The aim of this paper is to investigate the influence of transformational leadership behaviours (dimensions) on Omani employees' contextual and task work performance. Based on the research objective stated, the following research question was addressed:

Q1. Do transformational leadership behaviours (dimensions) influence Omani public employees' contextual and task work performance?

4. Literature Review

4.1 Transformational Leadership

Transformational leadership is a familiar topic and it is the most outstanding issue in recent research and theories of leadership (Davidson, 2014; Palrecha *et al.*, 2012; Taylor, 2014). Transformational leadership is the most frequently leadership research since the 1970s (Bass, 1985; Bass *et al.*, 1990) for increasing motivation (Charbonneau *et al.*, 2001), performance (Barling *et al.*, 2002), identification and high innovation (Bass *et al.*, 2003; Scott, 2003) and managing organizations change (Bass and Riggio, 2006). Avolio *et al.* (1991) asserted that change and development are the two key elements necessary for any supervisor to become a transformational leader. Cacioppe (1997) argues that one of transformational leadership tasks is encouraging followers to adopt the vision of organisation as their own. Moreover, Burns (1978) reveals that transformational leadership inspires followers to enhance the level of their ethics, beliefs and coalition with the objectives of the organisation. Bass (1985); Shamir *et al.* (1993); and Sashkin (2004) perceive transformational leaders have the capability of inspiring and motivating followers to accomplish organizations' goals as their own. Transformational leaders make subordinates aware of the need for personal development and achievement and motivate them to work for the good of the organization (loyalty) rather than for their personal gain (George and

Jones, 2008). Schepers *et al.* (2005) claimed that transformational leaders allow employees to think creatively, analyzed the problem from numerous angles and explored new and better solutions of the problem by using technology. Sarros *et al.* (2002) suggest that transformational leadership is an approach to leadership that based on encouraging others to perform more than what they originally thought possible. Leadership in Omani governmental organisations stresses on transformational leadership to enhance its performance. Podsakoff *et al.* (1990) have conceptualized transformational leadership behavior inventory (TLI) that consisting four key behaviours associated with transformational leaders such as, (1) core transformational leadership that consists articulating a vision, providing a role model, and fostering the acceptance of group goals, (2) providing individualized support, (3) high performance expectations, (4) intellectual stimulation. Nutt and Backoff (1993) argue that transformative leader who articulate a vision of change, encourages subordinates to participate in change process and support them to perform the predetermine change to achieve the desired objectives. Walumbwa *et al.* (2004) Leaders who provide an appropriate model can foster subordinates' loyalty and respect through desired behaviors. Pillai and Williams (2004) transformational leaders can encourage subordinates becoming more committed to their organization by promoting cooperation between subordinates, assisting them to work together, and getting them transcend their personal self-interest for the good of the group. Providing individualized support behaviours encourage subordinates to take on increasingly more responsibilities in order to develop to their full potential (Avolio & Bass, 1995). Leaders who successfully behave intellectual stimulation, support change, persuade subordinates to be risk takers, and encourage them to think creatively and innovatively (Bass and Riggio, 2006). Transformational Leadership researches focus primarily on profit organisations such as private sector's organisations, but recently, many researchers have called for conducting transformational leadership research in public organisations (AlKindy *et al.*, 2016; Andersen, 2010; Currie *et al.*, 2009; Fernandez *et al.*, 2010; Teelken *et al.*, 2012; Vogel & Masal, 2012).

4.2 Work Performance

Employees work performance is essential for any organization as it produces organizational overall performance (Berberoglu & Secim, 2015). Work performance contains employees' behaviour relevant to production of goods and services (Hughes *et al.*, 2008). Work performance is the whole goals and objectives that accomplished by a certain employee (Griffin, 2004). This performance results jointly from employee's effort and ability toward achieving organization's targets. Kocak (2006) defines performance as all activities that employees involve to fulfil their obligations toward achieving organizational goals and objectives. Indeed, all organizations whether they are, public, private, profitable or non-profitable have objectives and goals. Therefore, work performance is defined as behaviour that is related to accomplish organizations' goals and objectives (Campbell, 1990).

Performance is classified into two categories; that is task performance and contextual performance (Borman & Motowidlo, 1993). Task performance comprises in-role responsibilities that differ from one job to the other. It refers to employees' direct involvement in practical duties in the process of achieving practical outcomes (Borman & Motowidlo, 1997). Task performance refers to job-specific behaviours including core job responsibilities (Motowidlo & Schmit, 1999). Task performance, also, represents labour activities that are specified by an official job description (Harrison *et al.*, 2006).

Contextual performance represents extra-role activities that support the social and organizational environment (Borman & Motowidlo, 1993). Contextual performance refers to employees' contribution in activities that shape working contexts (Borman & Motowidlo, 1997). Contextual performance also refers to non-job specific behaviours such as, volunteering for extra work, following rules and regulations (Motowidlo & Schmit, 1999). Contextual performance, also, represents voluntarily motivated work behaviours that go beyond an official job description but contribute to the psychological and social contexts around the job (Harrison *et al.*, 2006).

Tan and Lau (2012) argued that the choice of performance measures used to assess employee work performance is critical due to its effect on employees' attitudes such as their perceptions of fairness, job satisfaction and organisational commitment.

Indeed, employees are required to do their ordinary duties in accordance to their formal job descriptions. Employees are also expected to expand their efforts to go beyond their formal job requirement and to exert extra effort to suggest creative and innovative ideas to enhance their organizational effectiveness (Law *et al.*, 2010). Employees are required to coordinate with other and discuss organizational issues, exchange ideas, suggest and recommend ways to accomplish extraordinary work (Borman & Motowidlo, 1993).

4.3 The Influence of Transformational Leadership on Work Performance

Enhancing employees' work performance to achieve organisational goals and objectives is an enduring challenge for most organizations. Researchers have conducted many studies to identify the factors responsible for

increasing employees' work performance (Kamdar & Van Dyne, 2007; Wang *et al.*, 2005). Certainly, leadership is a crucial factor that may have considerable influence on work performance (Yukl, 1998). Practically, Sarmiento *et al.* (2007) state that all existing theories of leadership asserted that leaders can have a substantial influence on subordinates performance.

Indeed, supervisors play a bridge role between the organization and the employees, as they play an effective role in new employees' adaption to the organization. Transformational leaders have a considerable influence on employees' work performance by stimulate them to accept organizational goals and objectives as their own goals. Employees under supervision of transformational leaders, are able to have control and authority over their work, which in turn, enhance their work performance. Also, employees are encouraged to use their abilities and bring their own ideas to solve problems (Şahin *et al.*, 2014). Researchers asserted that transformational leadership is one of the most influential factors motivating public employee performance (Paarlberg & Lavigna, 2010; Park & Rainey, 2008; Trottier *et al.*, 2008; Wright *et al.*, 2012).

Numerous of researchers postulate that the most influence of transformational leadership is the ability of leaders to lift ordinary people to extraordinary heights and cause subordinates to achieve more than they are expected to do, because they are expected to perform beyond the level of expectations (Bass, 1985; Yukl, 1989). However, Podsakoff *et al.* (1990) posit that the majority of researches that have been conducted to investigate the influence of transformational leadership on performance, in fact, focused on the impact of transformational leadership on in role performance instead of extra role performance. Therefore, transformational leaders are urged to focus on subordinate's extra-role performance (Bass & Riggio, 2006) rather than in-role performance (Graham, 1988).

Certainly, previous research has devoted a great deal of attention to the relationship between leadership and work performance. The findings in this area, however, are not entirely consistent. In the last few years, other researchers, also, revealed that there is no linkage between transformational leadership and work performance (Chi *et al.*, 2007; García-Morales *et al.*, 2012).

Nevertheless, researchers point out that there is a positive relationship between transformational leadership and work performance (Bono & Judge, 2003; Choi, 2006; Mullen & Kelloway, 2010; Senthamil & Palanichamy, 2011; Walumbwa *et al.*, 2008; Wang & Howell, 2012). Moreover, Podsakoff *et al.* (1996) suggest that individualized support, and fostering the acceptance of group goals have a significant effect on employee in-role performance.

Indeed, numerous of researchers have suggested that there is a positive association between leaders' consideration and subordinates' work performance (Farris & Lim Jr, 1969; Greene, 1975; Lowin & Craig, 1968). Furthermore, MacKenzie *et al.* (2001) state that there is a direct relationship between transformational leadership dimensions (e.g. individualized support and intellectual stimulation) and performance. They further state that some aspects of transformational leadership are related both directly and indirectly to performance while high performance expectations were not related either directly or indirectly to performance.

Deconinck and Beth (2013) have examined the relationship between transformational leadership and performance. Transformational leadership behaviour were measured using the transformational leadership behaviour Inventory developed by Podsakoff *et al.* (1990). The results show that two measures of transformational leadership, individualized support and core transformational behaviour that consists articulating a clear vision, providing an appropriate model, and fostering the acceptance of group goals were related positively to increased performance by the sales force. Also, they suggest that a sales manager who articulates a vision and serves as a role model for salespeople can influence their performance. However, the result exhibited that setting high performance expectation and stimulating salespeople intellectually do not lead to increased performance.

Therefore, the contradictory research findings in previous researches guided this study to investigate the transformational leadership behaviours influence on Omani employees' work performance, as shown in Figure 1, which led to the design research hypotheses.

H1: Core transformational leadership has a direct impact on task performance

H2: Providing individualized support has a direct impact on task performance

H3: Intellectual stimulation has a direct impact on task performance

H4: Setting high performance expectations has a direct impact on task performance

H5: Core transformational leadership has a direct impact on contextual performance

H6: Providing individualized support has a direct impact on contextual performance

H7: Intellectual stimulation has a direct impact on contextual performance

H8: Setting high performance expectations has a direct impact on contextual performance

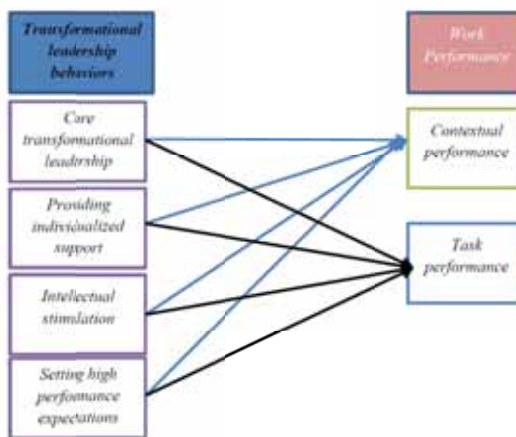


Figure :: Research Framework

5. Research Methodology

5.1 Sample and Data Collection

This research attempted to describe the impact of transformational leadership behaviors on work performance. The quantitative data was collected through survey instrument out of (500) questionnaires were distributed with (360) returning. Of the (360) that returned, (25) questionnaires were rejected, due to incomplete and defective response given by the respondents, resulting in (335) usable questionnaires yielding a response rate of 93%. Details are demonstrated in Table 1.

The stratified sample sampling was used in this study and the sample size has been chosen according to the population of Omani public civil services organizations that applying Civil Service law and the percentage of the middle managers in each organizations then the sample was selected randomly.

The data were then analyzed using Statistical Package for Social Sciences (SPSS) and AMOS. The questionnaire applying five-point Likert scale.

Table 1. Response Rate of the Questionnaire

Survey method	Questionnaire	Frequency	Percentage (%)
Paper	Return	Returned	360
	Rate	Unreturned	140
Survey	Usable Rate	Useable and Non Defective Responses	335
		Defective Response and Rejected	25

5.2 Transformational Leadership Dimensions

Transformational leadership behaviours (TLB) was measured using scale developed by Podsakoff *et al.* (1990). The scale used four dimensions to measure the TLB. The dimensions are core transformational leadership (Core), providing individualized support (PIS), intellectual stimulation (IS), and setting high performance expectations (SHPE) (Deconinck & Beth, 2013; MacKenzie *et al.*, 2001; Schwepker Jr & Good, 2013). To describe their direct supervisor’s leadership behavior, participants responded to 29 items, twenty three questions adapted from Podsakoff *et al.* (1990), and six questions were developed for this study, an example of measurement is, my leader gets the group to work together for the same goal, making use of 5-point rating scales with 1 = Strongly disagree and 5 = Strongly agree.

5.3 Work Performance Subscales

Work performance instrument is composed of two subscales corresponding to different types of work performance; (a) task performance (WPR) (O’Reilly & Chatman, 1986; Williams & Anderson, 1991), and (b) contextual performance (WPE) (Brockner *et al.*, 1992; May *et al.*, 2002). To describe their work performance, participants responded to 12 items, making use of 5-point rating scales with 1 = Strongly disagree and 5 = Strongly agree.

6. Result

As factor analysis and structural equation modeling both necessitate variables to be normality distributed, it was crucial to test normality in this research to confirm whether that a sample of observation comes from a normal distribution (Hair *et al.*, 1995; Kline, 2011; Tabachnick & Fidell, 2001). Utilizing AMOS, an examination of both skewness and kurtosis showed that the absolute values were within the recommended levels suggesting univariate normality. However, there was one items (WP.Role6r) in the work performance construct which does not have normal distribution. The work performance construct consists of twelve items. Since only one item of all the twelve items does not meet the normality assumption, it appears that this situation should not be a major concern.

In the measurement model, as shown in Figure 3, all the items were tested to check, whether all the confirmed items of constructs, significantly contribute as a whole in the proposed model of the current study. Table 2 indicated that, the default model required some adjustments, in order to achieve the required model fitness. First step was to remove those items, showing factor loading less than 0.50 (Hair *et al.*, 2010). Initial results signalled a weak model fit and item loadings of the constructs. Table 2 shows the results of the initial factor loadings of items IAV6, WP.Role5, WP.Role6, WP.Extra2 and WP.Extra6 were removed from the further analysis due to low value of factor loading, rest of the items were retained.

Table 2. Factor loadings

Construct	Items	Item Loadings	Result	
CORE	IAV6	0.487	Removed	
	IAV	IAV5	0.770	Retained
		IAV4	0.798	Retained
		IAV3	0.789	Retained
		IAV2	0.791	Retained
		IAV1	0.830	Retained
	PAM	PAM4	0.782	Retained
		PAM3	0.889	Retained
		PAM2	0.910	Retained
		PAM1	0.843	Retained
	FAGG	FAGG7	0.568	Retained
		FAGG6	0.803	Retained
		FAGG5	0.788	Retained
		FAGG4	0.860	Retained
		FAGG3	0.847	Retained
		FAGG2	0.874	Retained
PIS	FAGG1	0.857	Retained	
	PIS4.r	0.911	Retained	
	PIS3	0.876	Retained	
	PIS2	0.854	Retained	
IS	PIS1.r	0.859	Retained	
	IS4	0.827	Retained	
	IS3	0.848	Retained	
SHPE	IS2	0.845	Retained	
	IS1	0.830	Retained	
	SHPE4	0.814	Retained	
	SHPE3	0.816	Retained	
WPR	SHPE2	0.930	Retained	
	SHPE1	0.932	Retained	
	WP.Role1	0.755	Retained	
WPE	WP.Role2	0.745	Retained	
	WP.Role3	0.675	Retained	
	WP.Role4	0.655	Retained	
	WP.Role5	0.315	Removed	
	WP.Role6r	0.271	Removed	
WPE	WP.Extra1	0.884	Retained	
	WP.Extra2	0.295	Removed	
	WP.Extra3	0.821	Retained	
	WP.Extra4	0.684	Retained	
	WP.Extra5	0.832	Retained	
	WP.Extra6	0.304	Removed	

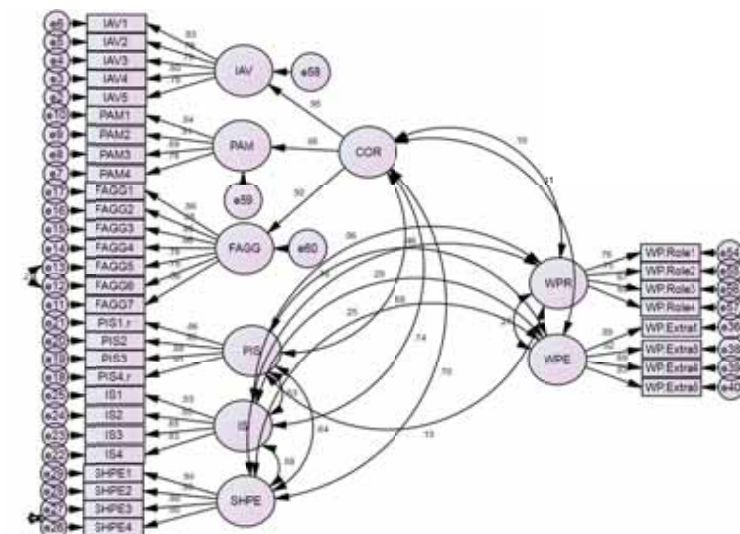


Figure 2. Measurement model

The values for goodness of fit was Chi-Square= 9.93; (DF=2), Relative Chi-Sq (<5.0) = 4.98, CFI=0.996, TLI= 0.931, NFI= 0.995, GFI=0.994. RMSEA= 0.041. These values showed that measurement model achieved good model fitness. The last step for achieving model fitness was to correlate error terms of the items having modification indices above than 40.

Convergent validity determines the amount of correlation, among the measures of the same concept (Arbuckle, 2011; Hair *et al.*, 2010; Rasli, 2006). The convergent validity is achieved when all items in a measurement model are statistically significant. Awang (2014) recommends that the value of average variance extracted (AVE) should be equal to or greater than 0.50 to validate using a construct. Thus, as shown in Table 3 the convergent validity for this scale was established because each factor loading constructs was more than .50 (Awang, 2014).

Table 3. Convergent Validity

Construct	Items	Item Loadings	CR	AVE
COR	IAV5	0.778	0.958	0.884
	IAV4	0.8		
	IAV3	0.79		
	IAV2	0.794		
	IAV1	0.83		
	PAM4	0.784		
	PAM3	0.889		
	PAM2	0.909		
	PAM1	0.844		
	FAGG7	0.564		
FAGG	FAGG6	0.791	0.929	0.766
	FAGG5	0.776		
	FAGG4	0.861		
	FAGG3	0.849		
	FAGG2	0.878		
	FAGG1	0.86		
	PIS4.r	0.91		
PIS	PIS3	0.876	0.904	0.702
	PIS2	0.854		
	PIS1.r	0.859		
	IS4	0.825		
IS	IS3	0.85	0.925	0.756
	IS2	0.848		
	IS1	0.827		
	SHPE4	0.798		
SHPE	SHPE3	0.799	0.937	
	SHPE2	0.933		
	SHPE1	0.937		

WPR	WP.Role1	0.805	0.801	0.503
	WP.Role2	0.758		
	WP.Role3	0.752		
	WP.Role4	0.758		
WPE	WP.Extra1	0.754	0.884	0.658
	WP.Extra2	0.753		
	WP.Extra3	0.674		
	WP.Extra4	0.65		
	WP.Extra5	0.832		

The measurement model should be free from redundant items to achieve discriminant validity (Awang, 2014). The inter-construct correlation of each variable and square root of average variance extraction indicate that all the constructs have adequate discriminant validity, as the square root of average variance extracted is greater than inter-construct correlation of each variable and also the values of inter construct are less than .85 (Awang, 2014). Thus, these results provide sufficient evidence of discriminant validity of the constructs (see table 4).

Table 4. Discriminant Validity

Constructs	IS	PIS	SHPE	WPR	WPE	COR
IS	0.838					
PIS	0.633	0.875				
SHPE	0.582	0.635	0.869			
WPR	0.060	0.134	0.181	0.709		
WPE	0.289	0.461	0.251	0.266	0.811	
COR	0.741	0.682	0.703	0.099	0.414	0.940

This study hypothesized that, four behaviours of transformational leadership (Core transformational leadership, Providing Individual Support, Intellectual Stimulation, setting high performance expectation) have a significant effect on work performance (Contextual and Task) (H1 and H8). Figure 2 illustrates results of the path model.

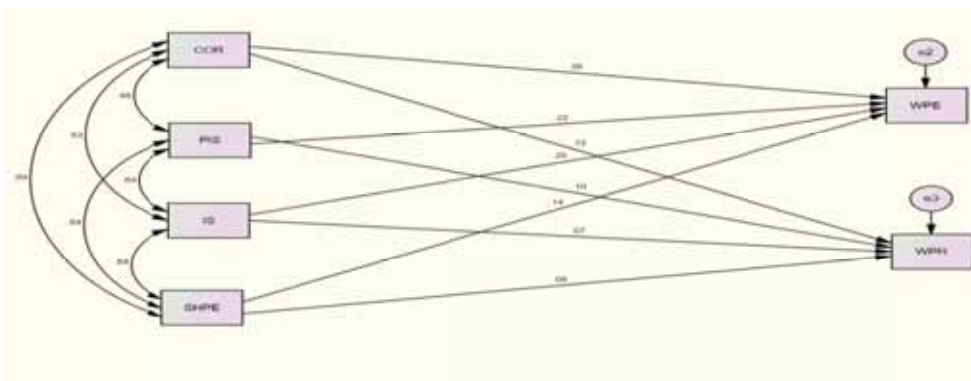


Figure 3. Transformational Leadership- Work Performance

The researcher proposed the hypothesis *H1: Core transformational leadership has a direct impact on task performance*. Results as shown in table 4 indicated that the path coefficient value is 0.134; critical ratio is 2.63 and p value 0.009. This indicates the significance of the direct relationship between Core and WPR. The researcher proposed the hypothesis *H2: providing individualized support has a direct impact on task performance*. Results as shown in table 4 indicated that the path coefficient value is 0.113; critical ratio is 2.33 and p value 0.020. This indicates the significance of the direct relationship between PIS and WPR. The researcher proposed the hypothesis *H3: intellectual stimulation has a direct impact on task performance*. Results as shown in table 4 indicated that the path coefficient value is 0.086; critical ratio is 1.72 and p value 0.086. This indicates there is insignificant direct relationship between IS and WPR. The researcher proposed the hypothesis *H4: setting high performance expectations has a direct impact on task performance*. Results as shown in table 4 indicated that the path coefficient value is 0.091; critical ratio is 1.84 and p value 0.066. This indicates there is insignificant direct relationship between SHPE and WPR.

The researcher proposed the hypothesis *H5: Core transformational leadership has a direct impact on contextual performance*. Results as shown in table 4 indicated that the path coefficient value is 0.27; critical ratio is 4.57 and p value 0.000. This indicates the significance of the direct relationship between Core and WPE. The researcher proposed the hypothesis *H6: providing individualized support has a direct impact on contextual*

performance. Results as shown in Table 5 indicated that the path coefficient value is 0.24; critical ratio is 4.17 and p value 0.000. This indicates the significance of the direct relationship between PIS and WPE. The researcher proposed the hypothesis *H7: intellectual stimulation has a direct impact on contextual performance*. Results as shown in table 4 indicated that the path coefficient value is 0.269; critical ratio is 4.68 and p value 0.000. This indicates the significance of the direct relationship between IS and WPE. The researcher proposed the hypothesis *H8: setting high performance expectations has a direct impact on contextual performance*. Results as shown in table 4 indicated that the path coefficient value is 0.14; critical ratio is 2.48 and p value 0.013. This indicates the significance of the direct relationship between SHPE and WPE.

Table 5. Testing Hypothesis Using Standardized Estimates (Hypothesized Model)

	Hypothesized path			B	S.E.	C.R.	P	Supported
H1	Core	→	WPR	.134	.051	2.631	.009	Yes
H2	PIS	→	WPR	.113	.049	2.326	.020	Yes
H3	IS	→	WPR	.086	.050	1.717	.086	No
H4	SHPE	→	WPR	.091	.049	1.836	.066	No
H5	Core	→	WPE	.270	.059	4.574	.000	Yes
H6	PIS	→	WPE	.236	.057	4.166	.000	Yes
H7	IS	→	WPE	.269	.058	4.676	.000	Yes
H8	SHPE	→	WPE	.144	.058	2.475	.013	Yes

7. Research Contributions and Recommendation for Future Study

This study is expected to provide additional insight into the influence of transformational leadership behaviours, on work performance, which should contribute to the future development of this line of research, specifically, in a non-western country. It expands the generalizability of transformational leadership behaviours beyond the limits of US-EU contexts, as this research has been conducted in a developing country e.g. Omani governmental organizations and thus samples from several governmental sectors, such as, finance, manpower, education, tourism, and health were examined, thereby answering the call for research on leadership in different cultures (Gardner *et al.*, 2010; Hartog and Dickson, 2012; Kuchinke, 1999; Pieterse *et al.*, 2010). Accordingly, the results of this study will strengthen the existing knowledge on the effectiveness of US-based transformational leadership behaviours in developing countries.

Moreover, from a practical viewpoint, Omani public organizations are advised to invest more in transformational leadership training and in the selection of top level managers with these leadership behaviors to increase their employees' work performance. Thus, the current research should attract public sector leaders' attention to the importance of adopting the appropriate transformational leadership behaviours. These could result in enhancing employees' employees' work performance, consequently providing quick and good services to citizens.

The findings of the present research are limited to the middle-level managers in the Omani public civil service organizations and thus cannot be generalized to the Omani context as a whole. Future longitudinal and experimental research that covers both Omani public and private organizations would help confirm the causal paths investigated in the current research.

8. Limitation

It is imperative to note that since this research examined the transformational leadership behaviours of top-level managers and their impact on middle-managers' work performance within public service organizations. It limits the nature of this kind of highly sensitive information. The extraction of this kind of highly sensitive information may be less accurate due to the reluctance divulge. Additional research, preferably qualitative research, should now be conducted to compensate for any lack of data in this current study

9. Conclusion

The purpose of this study is to examined the influence of each transformational leadership components on employee work performance. Transformational leadership dimensions are positively related to employee work performance. This indicates that transformational leadership components emerged as the contributing factor and play important roles in enhancing employees' work performance. Moreover, the need to extend the research on the influence of separate dimensions of transformational leadership to gain a deeper understanding of the nature and the antecedents of these leadership behaviours, rather than the usual practice of combining them into one overall scale as reported in the literature (Deinert *et al.*, 2015; Van Knippenberg and Sitkin, 2013) is met in this

research, by examining the influence of individual transformational leadership dimensions on contextual and task performance. There are limited studies that have examined the relationships between transformational leadership dimensions and contextual and task performance generally and with respect to Omani public service organizations. One of the objectives of this research is to examine these relationships, by investigating the direct effects between them. It is therefore demonstrated through the findings from this research, that a significant relationship exists between some of transformational leadership dimensions and some of work performance dimensions. Indeed, this research has empirically investigated the conceptual model and demonstrated that all transformational leadership behaviours such as core transformational leadership and providing individualized support, intellectual stimulation and setting high performance have a positive direct influence on employees' contextual work performance and two of transformational leadership behaviours such as core transformational leadership and providing individualized support, have a direct influence on employees' task performance. Thus, the results of this research emphasize that transformational leadership dimensions have different impacts on employees' work performance.

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Underlying Gaps between Environmental Knowledge and Behavior in the City of Toyota: Phase II

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Abstract

This study analyzes underlying gaps between environmental knowledge and behavior in the city of Toyota. A previous study through a focus group interview suggests that Toyota citizens act or do not act on eco-items comprising the city's eco-policy for ecological, economic as well as other reasons such as safety and convenience. Through a combination of questionnaires and interviews with 29 Toyota citizens, the current research extends the previous study and continues to further explore reasons why citizens take or do not take actions on eco-items while they are aware of them. The findings of the current research confirm those of the previous study and provide more insights about why Toyota citizens take or do not take actions on eco-items despite their recognition.

Keywords: Toyota City, eco-policy, environmental knowledge, environmental behavior

1. Introduction

Toyota was designated by the Japanese government in 2009 as one of the environmental model cities (Toyota City, 2009). A previous study on Toyota's eco-policy showed that although some respondents recognized eco-items such as Ha:mo and the smart house, they do not use Ha:mo or live in the smart house (Ito & Kawazoe, 2016).

Subsequently, another research project was conducted to explore possible reasons for this lack of action (Ito, 2017). Through a focus group interview with six members of an environmental NGO based in Toyota, this study suggested that the reasons why citizens do not act on eco-items may not solely be ecological or economic but a mixture of both as well as other reasons (e.g., safety and convenience). Also, whereas citizens may not seem fully engaged in the 'eco-items' defined by Toyota, a more careful examination about their actions suggested that they actually take actions in ways that approximate the eco-items. For instance, few citizens own smart houses, but some renovate their houses to make them more environmentally friendly. Installment of solar panels is a prime example. The study concluded that Toyota perhaps would need to broaden the ways that citizens can reasonably act on the eco-items. Although the previous study was useful as a first step to explore reasons why citizens act or do not act on eco-items, the study involved several limitations: the number of participants was limited to six, as a focus group interview method was employed, and the participants were from a single environmental organization in Toyota.

The current research extends the previous study and further continues to explore reasons why citizens take or do not take actions on eco-items while they are aware of them. The current research employs a combination of questionnaires and interviews conducted with 29 Toyota citizens who participated in an eco-event in Toyota. Given the research methodology used and the small number of and characteristics of respondents interviewed, the current research is still exploratory in nature and does not intend to generalize the environmental knowledge and behavior of all Toyota citizens. Instead, its main purpose is to help construct survey questions for a generalizable study at a larger scale in the future.

This study focuses on three eco-themes that Toyota supports to promote its eco-policy: transportation, the urban center, and public welfare and livelihood because these three are the most familiar eco-themes to citizens (Ito & Kawazoe, 2016). Transportation variables consist of knowledge of next generation cars (NGCs) and Ha:mo. NGCs include electric vehicles (EVs), hybrid electric vehicles (HEVs), and plug-in hybrid vehicles (PHVs).

Ha:mo is a car sharing system that uses compact EVs for urban short-distance transportation. The urban center variables consist of knowledge of Ecoful Town and the heat island effect. Ecoful Town is a pavilion showcasing eco-living that demonstrates how Toyota tackles challenges and elaborates on eco-strategies. As in any other urban areas, the heat island effect is an issue in Toyota City, as it causes air pollution and deteriorates soil quality (Toyota City, 2016). Public welfare and livelihood variables consist of the smart house and eco-points/eco-family cards. The smart house is a residential building that emits reduced CO₂ gas emission and saves energy through the use of renewable energy sources and monitoring of energy consumption (Kim et al., 2015). Eco-points can be accumulated when the eco-family card is presented at certain places such as Ecoful Town and greenly affiliated stores. These points can be exchanged for certain goods, such as stationery, bus tickets, or gift certificates.

2. Methodology

2.1 Sample

The participants in this research project are 29 Toyota citizens who gathered together at an eco-event called “Inaka to machi no bunkasai” (a cultural festival for rural and urban areas) that took place on November 21, 2016 at Toyota City Station. These participants may not represent the opinions of the general population in Toyota because they have already gone to an eco-event and likely know more about environmental issues and eco-items comprising the eco-policy than the general population. However, they are suitable for fulfilling the purpose of this study because this study seeks the opinions of those who generally know about eco-items comprising the eco-policy (but may not act on them). As Mills (2008) affirms in his study of environmentally active consumers, “it may potentially be much more appropriate and empirically interesting to examine the attitudes of those most predisposed [to the knowledge of the subjects/areas under study]” (Mills, 2008, p. 3).

2.2 Method

This study employs a combination of questionnaires and interviews. The principal purpose of this study is to help construct survey questions for future generalizable research at a larger scale. To do so, it is highly advisable to conduct pilot or exploratory studies to collect data to establish potential questions for a generalizable study at a larger scale in the future (Schensul, Schensul, & LeCompte, 1999). This study is expected to serve this purpose.

2.3 Procedures

At the beginning of the research, the author explained to the participants the context of why this study was being conducted. The participants then filled out the questionnaires that asked whether they knew about certain eco-items comprising the eco-policy and whether they acted or not on these items (Table 1). After filling out the questionnaire, respondents were asked why they were aware of certain items or not, and why they act or do not act on these items.

Table 1. Questionnaire items

Eco-theme	Survey Questions
Transportation	Q1. Do you know about NGCs?
	Q2. Do you ride NGCs?
	Q3. Do you know about Ha:mo?
	Q4. Have you used Ha:mo?
Urban Center	Q5. Do you know about the heat island effect?
	Q6 Do you take measures against the heat island effect?
	Q7. Do you know about the Ecoful Town?
	Q8. Have you been to the Ecoful Town?
Public Welfare and Livelihood	Q9. Do you know about the smart house?
	Q10. Do you live in the smart house?
	Q11. Do you know about eco-points?
	Q12. Do you use eco-points?

3. Results

Table 2. Socio-demographic factors

		<i>n</i>	%
Age	20-29	2	(6.9)
	30-39	11	(37.9)
	40-49	7	(24.1)
	50 or above	9	(31.0)
Gender	Female	19	(65.5)
	Male	10	(34.5)
Marital status	Single	8	(27.6)
	Married	21	(72.4)
Education	High school diploma or equivalent	14	(48.3)
	University / postgraduate degrees	15	(51.7)
Household income	Low income (less than 20,000 USD)	5	(17.2)
	Lower middle income (20,000 – 50,000 USD)	9	(31.0)
	Upper middle income (50,000 – 80,000 USD)	7	(24.1)
	High income (more than 80,000 USD)	4	(13.8)
	Unanswered	4	(13.8)

Table 3. Questionnaire results

Questions	Yes	No	Already
Q1. Do you consider buying an NGC?	12 (41.4)	11 (37.9)	6 (20.7)
Q2. Do you know about Ha:mo?	18 (62.1)	9 (31.0)	2 (6.9)
Q3. Do you know about the heat island effect?	25 (82.8)	3 (10.4)	2 (6.9)
Q4. Do you know Ecoful Town?	7 (24.1)	2 (6.9)	20 (69.0)
Q5. Do you know about the smart house?	19 (65.5)	10 (34.5)	0 (0.0)
Q6. Do you know about eco-points?	11 (37.9)	1 (3.4)	17 (58.6)

This study analyzed reasons why:

- Respondents consider purchasing NGCs but have not done so;
- They actually have NGCs;
- They recognize Ecoful Town but have not been there;
- They have actually been to Ecoful Town;
- They recognize the smart house but do not live there;
- They recognize Ha:mo but do not use it;
- They actually use Ha:mo;

- They recognize the Eco-family card but do not use it;
- They use the Eco-family card;
- They recognize the heat island effect but do not take countermeasures; and
- They take countermeasures against the heat island effect.

None of the respondents lived in a smart house, so it was not possible to analyze individuals living in one.

3.1 Reasons That Respondents Consider Purchasing NGCs But Have Not Done So

There were 12 respondents who reported that they were thinking of buying NGCs but had not done so. Most of them regarded NGCs as expensive. For instance, one respondent said: "I have once calculated which would be more economical, an NGC or an oil-fuel car. Given the commuting distance to my workplace, the price of gas, and money that would be saved by the use of an NGC, I concluded that an oil-fuel car would be cheaper overall" (30s, woman, married, university graduate, 50,000-80,000 USD).

Another respondent also reported: "I currently work for an environmental NPO and thus know the benefits of NGCs. However, I find them quite expensive. Using an ordinary car is a lot more economical" (30s, man, married, university graduate, more than 80,000 USD).

As is the case with the previous study, some respondents mentioned security reasons for not driving NGCs or preferring light gas fuel cars, commonly called *Kei* in Japan. One respondent claimed: "*Kei* is easier to drive than an NGC or an ordinary car, especially inside the city center" (30s, woman, married, university, 20,000-50,000 USD).

3.2 Reasons That They Actually Have NGCs

Some respondents reported that they actually drive NGCs: some for ecological reasons, some for economic reasons, and many for both reasons.

One respondent, for example, said: "I am driving an Aqua (Toyota's NGC)...of course, for the environment as well as energy cost efficiency" (50s, woman, married, high school graduate, 50,000-80,000 USD).

Another said: "I am driving a Prius (Toyota's NGC) for ecological reasons...yeah, energy efficiency is a synonym to environmentally friendly, isn't it?" (40s, man, married, high school graduate, N/A).

3.3 Reasons That They Recognize Ecoful Town But Have Not Been There

The vast majority of the respondents knew about Ecoful Town. Seven of those who knew it, however, had not been there.

One respondent reported: "I got to know about Ecoful Town from a newspaper but have not been there because it is far from my place" (50s, woman, married, high school graduate, 20,000-50,000 USD). Another respondent said: "I want to go to Ecoful Town because I have heard that there is a good restaurant [Hogaraka], but I don't know what else is there and what I can do there" (30s, woman, married, university graduate, 20,000-50,000 USD).

3.4 Reasons That They Go to Ecoful Town

Those who have been to Ecoful Town mentioned the following reasons to visit: 1) to go to a restaurant called *Hogaraka*, 2) to participate in an event to try out the *Mirai*, a new NGC from the Toyota Motor Corporation, and 3) to receive eco-points. Below I present remarks from some participants with regard to these reasons.

3.4.1 Restaurant Hogaraka

"I have been there because there is a good restaurant [Hogaraka] (30s, man, married, university graduate, more than 80,000 USD)."

"I have been there to have lunch with my friend at a restaurant [Hogaraka] (30s, woman, married, university graduate, 50,000-80,000 USD)."

3.4.2 Events to Try Out the *Mirai*

"I have been to Ecoful Town because there was an event that visitors could try out the *Mirai*" (a new NGC of TMC) (20s, man, single, university graduate, less than 20,000 USD).

"I have been there because there was an event where we could try out the *Mirai*" (50s, man, married, high school graduate, 20,000-50,000 USD).

3.4.3 Eco-points / Eco-family Cards

"What motivates us to go there is that they give us eco-points by just visiting" (30s, woman, single, high school

graduate, 20,000-50,000 USD).

“We go there often because every time we go, they give us eco points and we can exchange eco-points for goods such as toilet paper” (50s, woman, married, high school graduate, 50,000-80,000 USD).

3.5 Reasons That They Recognize the Smart House But Do Not Live in One

Approximately two-thirds of respondents knew about the smart house, but none actually lived in one. Three reasons were provided: 1) their houses had recently been bought or built, 2) smart houses are expensive, and 3) they live in mansions. Below I present some reasons mentioned during the interview.

3.5.1 Their Houses Being Recently Bought or Built

“I want to live in a smart house, but our house is still new” (50s, man, married, high school graduate, 20,000-50,000 USD).

“Our house, which is not a smart house, has just been recently built...it has been installed with solar panels, though” (50s, woman, married, high school graduate, 50,000-80,000 USD).

3.5.2 Smart Houses Being Expensive

“I want to live in a smart house, but I think that it is expensive” (30s, woman, married, university graduate, 20,000-50,000 USD).

“I want to live in a smart house but it is expensive to buy and maintain it” (40s, woman, married, community college graduate, 50,000-80,000 USD).

3.5.3 Living in Mansions

“We live in a mansion. Although this may not be called a smart house. It is energy efficient and ecological, with an adequate thermal insulation system inside” (30s, woman, married, university graduate, 50,000-80,000 USD).

3.6 Reasons that Ha:mo Is Recognized But Not Used

As is the case with the smart house, quite a few respondents knew about Ha:mo. However, few actually use it, mainly for three reasons: 1) they have their own cars, 2) the registration process is troublesome, and 3) Ha:mo stations are far from their home. I will present below some comments mentioned in regards to each of these reasons.

3.6.1 Already Having Cars

One respondent, for example, said: “I won’t use Ha:mo because I have a car” (40s, woman, married, high school graduate, 50,000-80,000 USD).

Another echoed her stating: “I don’t use Ha:mo because I have a Prius. When I just go around the city center, I use my bicycle because it is more economical and ecological than using my car or Ha:mo.” (50s, woman, married, university graduate, 20,000-50,000 USD).

3.6.2 Troublesome Registration Process

Some respondents found the registration process of Ha:mo troublesome.

One respondent reported: “I have registered myself in the Ha:mo system. Yet, I still have to receive training and find it troublesome. I already have my own car, you know...” (30s, man, single, graduate school graduate, 20,000-50,000 USD).

Another respondent also claimed: “The registration process is troublesome. If the process were easier, I would like to use it” (40s, man, married, high school, N/A).

3.6.3 Ha:mo Stations Being Far from Home

Despite the city’s effort to set up Ha:mo stations, many complained that they do not see them around their homes. One respondent reported: “If there was a Ha:mo station near my house, I might use it because using Ha:mo might be cheaper than using my own car. However, I currently find it troublesome to go all the way to get a car at the Ha:mo station because they are far from my home and workplace” (30s, woman, married, university graduate, 20,000-50,000 USD).

Another respondent claimed: “If there were a Ha:mo station near my house, I might use it in the future. It would be economical because I would not have to pay for car insurance as well as a car itself” (40s, woman, married, university graduate, less than 20,000 USD).

3.7 Reasons That They Use Ha:mo

There were two respondents who actually use Ha:mo.

One of them said: “I am using it...yeah, when I go for a drink, I use it and leave it at one of the Ha:mo stations” (30s, man, single, postgraduate, more than 80,000 USD).

The other said: “Although I have a car, I intend to use it as much as possible because it is environmentally friendly” (40s, man, married, university graduate, N/A).

3.8 Reasons That They Recognize the Eco-family Card But do Not Use It

Some respondents are well aware of the Eco-Family Card, but they themselves do not use one because Toyota set a one-family one-card policy.

“I am not using it, but my husband does. I got to know about eco-points at a recycling center” (40s, woman, N/A, N/A).

“I don’t have it myself, but my family does” (20s, woman, single, high school graduate, less than 20,000 USD).

3.9 Reasons That They Use the Eco-family Card

The only reason reported to use the Eco-Family card was to receive points and acquire goods in return, though receiving points can be considered an environmentally friendly act.

“I am using it...just for points” (40s, woman, married, university graduate, less than 20,000 USD).

3.10 Reasons That They Use the Heat Island Effect but Do Not Take Measure against It

The large majority of respondents (approximately 90%) at least recognized the heat island effect itself, but only two respondents had done something against it. One respondent, for example, claimed: “I know the heat island effect is bad and have to do something, but I don’t know what I can do” (50s, man, married, N/A, 20,000-50,000 USD).

“There must be some countermeasures such as preserving rice fields that would prevent temperatures from rising. But this is not what I can do” (50s, woman, married, high school graduate, 50,000-80,000 USD).

3.11 Reasons That They Take Measures against the Heat Island Effect

As mentioned above, two respondents reported that they had taken countermeasures against the heat island effect. One, for example, reported: “I am using planters as a measure against the heat island effect because I know the heat island effect exists in Toyota” (30s, woman, married, graduate school graduate, 50,000-80,000 USD).

Another respondent claimed: “I often plant trees. This is a countermeasure against the heat island effect, isn’t it?” (20s, men, single, university graduate, less than 20,000 USD).

4. Discussion

Findings of the current study confirm those of the previous study and still provide some new insights into reasons that citizens act or do not act on eco-items.

The current research supports the findings of the previous study. For example, citizens do not buy NGCs due to their high costs (i.e., NGCs are expensive) and safety concerns (i.e., *Kei* are easier to drive); citizens do not go to Ecoful Town because it is located far from their homes and they lack information about Ecoful Town; citizens do not live in smart houses because they have recently built houses or live in apartments/mansions, as well as smart houses are expensive; citizens do not use Ha:mo due to reasons of inconvenience (i.e., no Ha:mo stations are not closer to their homes) or the troublesome registration process; citizens do not have the Eco-Family Card because the card has a “one card per family” policy; citizens do not take any countermeasures against the heat island effect because they do not know what they can do. The current study also provided some new insights into citizens’ actions on eco-items: citizens go to Ecoful Town because they can try Mirai (TMC’s NGC) and also receive eco-points.

These findings suggest that some modifications could be made on Toyota City’s eco-policy. *Kei*, for example, is not an NGC but may be as energy efficient and thus ecological as an NGC. If NGCs are encouraged to use for ecological reasons, citizens using *Kei* may already satisfy this requirement. Those who have not been to Ecoful Town have not been informed what is there and what they can do there. The city government should provide citizens with more information about attractions and activities. No respondents reported that they lived in smart houses because their houses are not considered smart houses. However, some respondents claimed that they have installed solar panels on their houses. This type of house modification should also count as contribution to the eco-policy. Ha:mo has not been prevalent because citizens already have cars, the Ha:mo stations are far from

their places, or the registration process is troublesome. While it is infeasible to install the stations in all areas in Toyota, more stations should be allocated, especially within eco-related organizations, such as environmental NPOs or recycle stations. The city government also should abandon the “one Eco-Family Card per family” policy and allows each individual to have an Eco-Family Card, as may respondents claimed that they did not have a card because their family members already have one. There are also some measures that citizens can take against heat island effects. For instance, placing green curtains (planters) on and around their house buildings are not difficult. The city government should provide citizens with more information about simple countermeasure as such.

It is important to note that whereas the eco-policy needs to be flexible enough that it permits citizens to act on eco-items in a way that is possible within the context of their lives, the goal is actual action on making Toyota City a more environmentally friendly city. That goal has to be achieved by realizing that citizens will approach acting on eco-items in different ways.

The current research is exploratory in nature due to its research methodology and the small number of and characteristics of participants. In order to collect data from the more general public and generalize the findings, future research should be conducted at a larger scale with a wider variety of respondents. The reasons to act or not act on eco-items in both the previous and the current studies can be adapted and placed into the survey questions for future studies. Based on these findings, tentative survey questions are constructed for future research (See Appendix). These survey questions are expected to serve for this future study.

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Appendix

Q1. Are you driving NGCs such as EVs and PHVs?

Yes No

For those who checked *Yes* in Q1, why do you drive an NGC? Please select one or more reasons or add other reasons.

- NGCs are cost effective.
- NGCs are environmentally friendly.
- Other ()

For those who checked *No* in Q1, why don’t you drive an NGC?

- NGCs are expensive.
- Kei* are easier to drive than NGCs.
- I am not interested in environmental protection.
- Other ()

Q2. Do you use Ha:mo?

- Yes No

For those who checked *Yes* in Q2, why do you use Ha:mo? Please select one or more reason or add other reasons.

- Ha:mo is cost effective.
- Ha:mo is environmentally friendly.
- Ha:mo is convenient.
- Other ()

For those who checked *No* in Q2, why don't you use Ha:mo?

- I already have a car.
- Ha:mo stations are far from my home or work place.
- The registration process is troublesome.
- Other ()

Q3. Do you live in a smart house?

- Yes No

For those who checked *Yes* in Q3, why do you live in a smart house? Please select one reason or add other reasons.

- Smart houses are energy efficient and cost effective.
- Smart houses are environmentally friendly.
- Other ()

For those who checked *No* in Q3, why don't you drive live in a smart house?

- Smart houses are expensive.
- I bought or built my house recently.
- I live in an apartment or mansion.
- Other ()

Q4. Do you use the eco-family card?

- Yes No

For those who checked *Yes* in Q4, why do you use the eco-family card? Please select one reason or add other reasons.

- I can get eco points and receive goods in return.
- The eco-family card is environmentally friendly.
- Other ()

For those who checked *No* in Q4, why don't you use the eco-family card?

- Another family member has it (because Toyota set a one-family one-card policy).
- The registration process is troublesome.
- I do not know what I can do with the eco-family card and/or eco-points.
- Other ()

Q5. Do you go to Ecoful Town?

- Yes No

For those who checked *Yes* in Q5, why do you go to Ecoful Town? Please select one reason or add any reasons.

- There is a restaurant (*Hogaraka*) there.

- I can try driving NGCs.
- I can receive eco-points.
- Other ()

For those who checked *No* in Q5, why don't you go to Ecoful Town?

- I don't know what is there.
- It is far from home.
- Other ()

Q6. Do you take any measures against the heat island effect?

- Yes No

For those who checked *Yes* in Q6, what do you do to reduce the heat island effect? Please select one reason or add other reasons.

- I place planters.
- I plant trees.
- Other ()

For those who checked *No* in Q6, why don't you take measures against the heat island effect?

- I don't know what I can do.
- I am not interested in preventing the heat island effect.
- Other ()

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The Gap between the Returns that Calculated by Capital Asset Pricing Model and the Actual Returns in Abu Dhabi Securities Exchange (ADX): Evidence from the United Arab Emirates

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Abstract

This study aimed to compare the Historical Returns (Rit) in companies listed in Abu Dhabi Securities Exchange (ADX) with the return which calculated by Capital Asset Pricing Model (E(Rit)) for the same companies and periods, and trying to figure out the level of dispersion, distortions and differences between them, and trying to figure out the strengths and weaknesses for the CAPM to explain the variances which happened in the Annual Return.

The researcher used the time series analysis to achieve the target of this study, using Microsoft Office Excel software to introduce some figure and graphs which considered as output from Scatter charts, which are often used to find out if there's a relationship between variable X and Y to make judgment on the gap between the variables mentioned before.

The researcher found that in the most of the study sample firms the capital asset pricing model could not to predict the returns were generated by companies in Abu Dhabi Securities Exchange (ADX), except in the banking sector, the result was amazing because the graphs which output from the time series analysis show the ability of CAPM to predict the Historical Returns, they were very closed and they Walking in the same direction without volatility.

After the results appear in the time-series analysis researcher can says that there are weaknesses in the ability of CAPM to predict the returns in the financial markets which consistent with the (Fama & French, 1992) and with most studies conducted in this regard, but the model shows high ability to predict the returns in the banking sector. Therefore, the researchers can generalization this result on the financial markets in the United Arab Emirates.

Keywords: Abu Dhabi Securities Exchange (ADX), Capital Asset Pricing Model (CAPM), Expected Return (E(Rit)), Historical Returns (Rit), Risk (β).

JEL classification: G20, G21, G24, G30, G31

1. Introduction

The capital asset pricing model (CAPM) is a mathematical model which describes the hypothetical relationship between risk and expected return for financial assets, especially stocks, it extensively used in finance management field for the estimation of securities that include risk, therefore, this model takes into account the risks involved on capital which used in the investment in securities. CAPM, introduced a theoretical exemplification of the conduct of securities, it can be used in assess a firm's cost of equity capital. In spite of restriction, this model can be an advantageous supplement to several parties like financial managers, investors, Prospective shareholders, Creditors and Potential lenders.

The charisma of the CAPM is that it offering strong satisfactory prognostications for how to measurement involved risk and the relationship between the most important items in the finance field expected return and risk. Unluckily, the experimental record in this model is inferior enough to decline the method it is used in implementations. The CAPM's experimental troubles might reflect theoretical weakness, because of many

simplify assumptions, but some of these reasons maybe also appear by difficulties in achievement valid tests of this model.

The CAPM constructs on the model of portfolio select progressed by Harry Markowitz (1959). In this model, the choice of investors to choose portfolio at period $t-1$ that generates a random return at t . The Markowitz model suppose all investors are risk aversion and, when they have many choices to select between portfolios, they only concern about the (mean, variance) of their (t) period investment return, especially for one time investment, so, the Markowitz model is often called a (mean-variance) model.

The CAPM was introduced by Jack Treynor (1961, 1962), William F. Sharpe (1964), John Lintner (1965) and Jan Mossin (1966) separately. In the regarding of the CAPM's assumptions, the scholars mentioned before agreed on a number of assumptions, the most important of these assumptions that all participants in the financial market have the same target mainly is to maximize wealth, and the investors rational in addition to risk-averse, and their investment are widely diversified, in addition that all investors are price takers which is mean they cannot effect in securities prices, the processes of lend and borrow will be done under the interest equal risk free rate, all transactions devoid of taxation costs, all securities are completely capable of being divided and liquid, all investors have identical expectations, and the last assumption for this model perfectly linked with the market efficiency especially the strong form efficiency market where this model assumes that all information are available timely to all investors at the same degree of accuracy.



Figure 1. Capital Asset Pricing Model & the relationship between Risk & Return.

Many of experimental tests show market distortions like the effect of size and value of firms that cannot be demonstrate and explained by the capital asset pricing model.(Fama & French, 1992) in the three-factor model. Through this idea, the researcher will try in this study to figure out the possibility of predicting the returns in the Abu Dhabi Securities Exchange (ADX), by comparing the returns calculated by the CAPM and the historical returns for the same firms & periods, to find out the extent of the differences and distortions that occur in this financial market which is classified as an emerging market.

2. Literature Review

A many Literatures have shown that non varied skewness and kurtosis shows a significant role in security estimation. (Fang & Lai, 1997) derived a four-moment CAPM and it was shown that methodical variance, methodical skewness and methodical kurtosis engage to the risk premium of securities. (Christie & Chaudhry, 2001) they display that the third and fourth moments explain the return-producing process in the financial markets well. All Investors are mostly recompensed for taking risk as assessing by high methodical variance and methodical kurtosis. They also keep the expected returns $E(R_{it})$ for taking the profit of a positively skewed market (Arditti, 1971). It also has been documented that skewness and kurtosis cannot be various away by growing the magnitude of portfolios.

According to the (Ferson & Harvey, 1991) study of US bond and stocks returns, they discovered that the timing of variation in the risk premium is more significant than the changes in the betas. That's why equity premium of risk was set to modify with market situation and business cycles.

(Schwert, 1989) imputed differential risk premium between up and down markets to varying methodical risk over the business rotation. (Friend and Blume, 1970) and (Black, Jensen and Scholes, 1972) study the portfolios behavior, not only the individual securities. Expected returns and market betas collect in the same method in portfolios, if the CAPM demonstrates securities returns it can demonstrates portfolio returns. (Fama & French, 1992) in this paper they discuss the relationship between beta and expected return may be even adulate than the

one reported by the early experimental literature. That idea was however defied in 1995 by Kothari et al. (Fama and French, 2004) that the reported effects seem to lack a theoretical base.

3. The study objective

This study aims to compare the historical returns in companies listed in Abu Dhabi Securities Exchange (ADX) with the return calculated by Capital Asset Pricing Model for the same companies and the same period, and trying to figure out the level of dispersion, distortions and differences between them, and trying to figure out the strengths and weaknesses for the CAPM to explain the variances which happened in the Annual Return. At the local level, this study is the first attempt to discuss the differences between the historical returns & the return calculated by CAPM.

4. The Study Model

Figure 2 below shows the virtual model for this study to achieve the object of this research, which explain two main variables of this study the 1st one is the historical return (Actual return), and the 2nd is the return calculated by CAPM, for the same companies and the same periods:

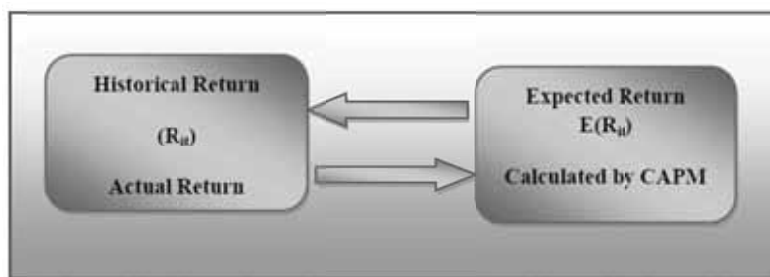


Figure 2. The virtual model of the study, Source: made by researcher

From the Figure 2 above, it's clear that this study looking for make comparison between the (R_{it} : The Actual Return) and ($E(R_{it})$: the Return calculated by CAPM) for the sample will take randomly from the companies listed in the ADX.

5. The Population & Sample of the Study

5.1 The Study Population

The Population of this study is the companies listed in Abu Dhabi Securities exchange, this financial market was established in November 15, 2000 for trading shares and bonds of local and foreign companies.

5.2 The Study Sample

The Sample of this study includes random companies taken from listed companies in Abu Dhabi Securities exchange. There are many sectors in the Abu Dhabi Securities Exchange (ADX), But it consider a small number companies in this financial market compared to other markets, so the researcher takes approximately 48% as random sample from the a whole companies listed in (ADX). The table1 below includes the study sample:

Table 1. The Study Sample

SR	Sector	Symbol	Company
1	Services	ADAVIATION	Abu Dhabi Aviation Co.
2	Insurance	ABNIC	Al Buhaira National Insurance
3	Services	ADNH	Abu Dhabi National Hotels
4	Insurance	ADNIC	Abu Dhabi National Insurance Co.
5	Industrial	ADSB	Abu Dhabi Ship Building PJSC
6	Consumer Staples	AGTHIA	AGTHIA GROUP PJSC
7	Banks	ADCB	Abu Dhabi Commercial Bank
8	Banks	ADIB	Abu Dhabi Islamic Bank

Source: made by researcher

6. The Study Method

The researcher used the time series analysis to achieve the target of this study; he found it the most appropriate way for this type of research, below the steps that the researcher goes through it in the next sections:

6.1 *The first step:* Collect the historical return from the secondary resources of data, which published from the

Abu Dhabi Security Exchange (ADX), these monthly data collected for the study sample that includes eight companies listed in ADX for the period (2008-2015).

6.2 *The second step*: calculate the Annual return from the monthly return that collected in the first step, for the study sample using the Holding Period Return (HPR).

6.3 *The third step*: calculate the Beta (systematic Risk) for the companies in the study sample, for the same period above, using the covariance of the return of an asset and the return of the industry index divided by the variance of the return of the industry index over a study period.

6.4 *The fourth step*: getting the risk free rate (R_f) from the Central Bank in Abu Dhabi for the years including in this study (2008-2015), it equals the Interest Rate for the Treasury Bills that issued from the CB in Abu Dhabi.

6.5 *The fifth step*: getting the industry index for each sector used in this study as shown in Table (1) from the ADX for the years including in sample (2008-2015).

6.6 *The sixth step*: calculate the $E(R_{it})$ Expected Return for each company in the study sample using the CAPM. Because the Variables that need to use CAPM equation become existed in the previous steps

6.7 *The seventh step*: the researcher will use the output in the previous steps especially the Historical Return (R_{it}) and the Expected Return $E(R_{it})$ to achieve the time series analysis, by insert the output these information to the Microsoft Office Excel software, and from the result of the Graphics which produced by Excel software then the researcher can make the comparison between the variables above.

7. The Study Variables

The variables of this study as following:

7.1 *The Historical Return*: the returns which actually earned by investors in the study period, in this regard the researcher used the HPR equation to calculate this variable:

$$R_{it} = \frac{P(t) - P(t-1)}{P(t-1)} \quad (1)$$

Whereas,

R_{it} : return on acquisition period representing return on stock

$P_{(t)}$: stock price at the end of year

$P_{(t-1)}$: stock price at the beginning year

7.2 *The Systematic Risk (Beta)*: to calculate the Beta for the companies in the study sample the researcher used the covariance equation as following:

$$\beta = \frac{\text{Covariance}(R_{it}, R_m)}{\text{Variance of Market}} \quad (2)$$

Whereas,

β : Systematic Risk

Covariance (R_{it} , R_m): the covariance of the return of an asset and the return of the industry index

Variance of Market: the variance of the return of the industry index

7.3 *The Expected Return*: after the researcher get the Beta (β), Risk free rate (R_f) and the industry index (R_m), he used the CAPM to calculate the Expected Return for the study period for all companies in the study sample as following:

$$E(R_{it}) = R_f + \beta * (R_m - R_f) + \epsilon \quad (3)$$

Where,

$E(R_{it})$: Expected Return for the Company (i), Period (t)

R_f : Risk free rate

R_m : industry index

ϵ : Random Error

8. Discussion the Results

After using the Software Excel to draw the disparity between the Historical Return in the ADX and the Expected Return calculated by CAPM in the same market for the same companies which include in the study sample, the researcher divide results discussion to be each company separately, the following figures show the Differences between the actual values of return and the values calculated for the return using CAPM for each company in the study sample:

8.1 The 1st Company: ADAVIATION

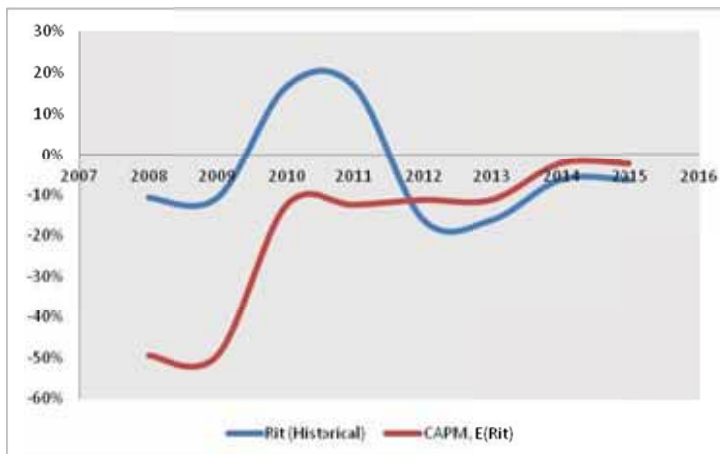


Figure 3. Scatter chart output from Microsoft Office Excel software for the ADAVIATION Company

ADAVIATION: this Symbol indicates to the Abu Dhabi Aviation Co. it is one of the Abu Dhabi companies in the Services sector, after calculate the E(Rit) using CAPM and calculate (Rit) using HPR and make comparison between them using Excel software especially Scatter charts which are often used to find out if there's a relationship between variable X and Y to make judgment on the gap between the variables mentioned before which are governed by TIME SERIES.

Given the figure above researcher found that the time series can be divided into two main periods the first from 2008 to 2012 and the second from 2012 to 2015. In the first period the gap between the (Rit) and E(Rit) it was very high and the Historical Return (Rit) exceed the Expected Return E(Rit).

This case shows the weakness of CAPM to predict the return in the ADX, but in the second period the E(Rit) exceed the (Rit) but they were very closed to each, the researcher can say in the second period the gap in not significant. Which means the CAPM was able to predict the returns in period of (2012-2015).

8.2 The 2nd company: ABNIC

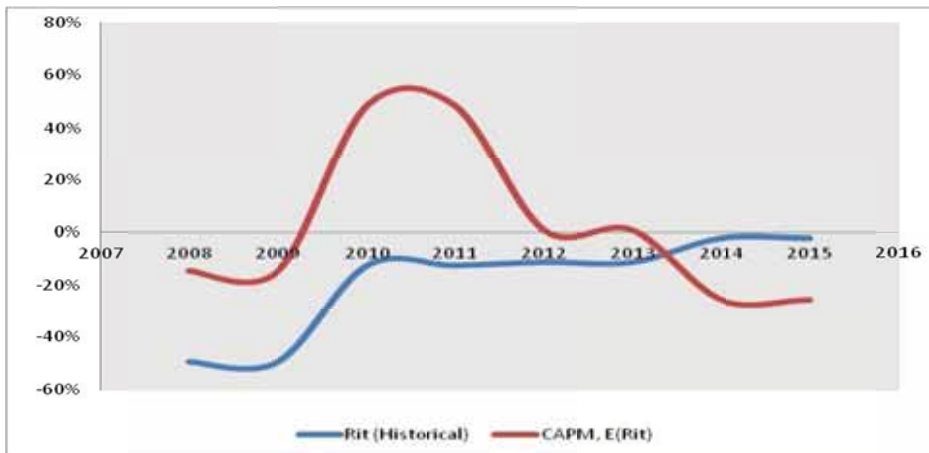


Figure 4. Scatter chart output from Microsoft Office Excel software for the ABNIC Company

ABNIC: this Symbol indicates to the Al Buhaira National Insurance it is one of the Abu Dhabi companies in the Insurance sector, given the figure above researcher found that the time series can be divided into two main periods the first from 2008 to 2013 and the second from 2013 to 2015. In the first period the gap between the (Rit) and E(Rit) it was very high and the Expected Return E(Rit) exceed Historical Return (Rit) this case shows

the weakness of CAPM to predict the return in the ADX, but in the second period the (Rit) exceed E(Rit), which shows the weakness of CAPM too. That means the CAPM wasn't able to predict the returns in period of time series (2008-2015).

8.3 The 3rd company: *ADNH*

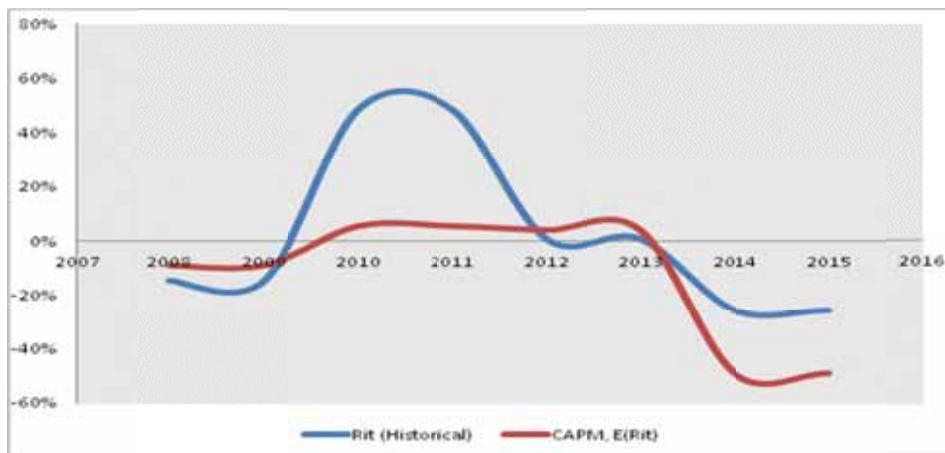


Figure 5. Scatter chart output from Microsoft Office Excel software for the ADNH Company

ADNH: this Symbol indicates to the Abu Dhabi National Hotels it is one of the Abu Dhabi companies in the Services sector, given the figure above researcher found that the time series can be divided into two main periods the first from 2009 to 2012 and the second from 2013 to 2015. In the first period the gap between the (Rit) and E(Rit) it was very high and the Historical Return (Rit) exceed the Expected Return E(Rit) this case shows the weakness of CAPM to predict the return in the ADX, and in the second period the (Rit) exceed E(Rit) too, which also shows the weakness of CAPM. That means the CAPM wasn't able to predict the returns in period of time series (2008-2015). It is good to say that the (Rit) and E(Rit) were very closed in the (2008-2009) & (2012-2013) but in the time series analysis it is not considered a one period statistically significant, so the researcher ignore these two years.

8.4 The 4th company: *ADNIC*

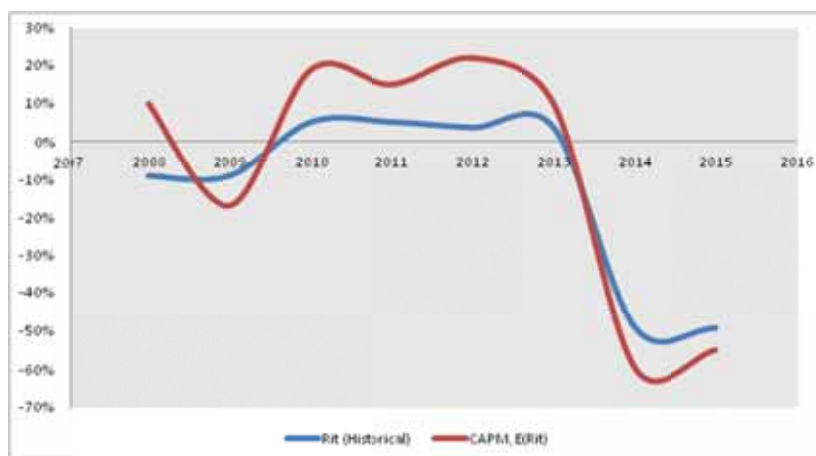


Figure 6. Scatter chart output from Microsoft Office Excel software for the ADNIC Company

ADNIC: this Symbol indicates to the Abu Dhabi National Insurance Co. it is one of the Abu Dhabi companies in the Insurance sector, given the figure above researcher found that the time series can be divided into two main periods the first from 2008 to 2010 and the second from 2010 to 2015. In the first period the gap between the (Rit) and E(Rit) it was very high and there was very volatility in the result, this case shows the weakness of CAPM to predict the return in the ADX, but in the second period they were very closed to each with some differences but they go hand in the same direction. Which means the CAPM was able to predict the returns in period of (2010-2015).

8.5 The 5th company: **ADSB**

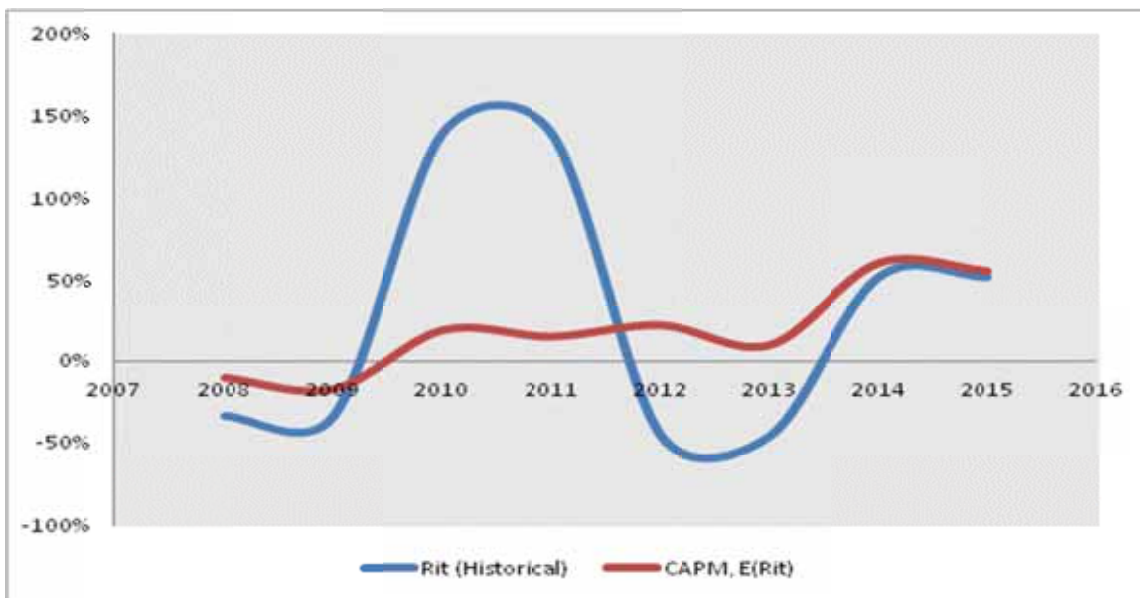


Figure 7. Scatter chart output from Microsoft Office Excel software for the ADSB Company

ADSB: this Symbol indicates to the Abu Dhabi Ship Building PJSC. It is one of the Abu Dhabi companies in the Industrial sector, given the figure above researcher found that the time series can be divided into two main periods the first from 2009 to 2012 and the second from 2012 to 2015. In the first period the gap between the (Rit) and E(Rit) it was very high and the Historical Return (Rit) exceed the Expected Return E(Rit), this case shows the weakness of CAPM to predict the return in the ADX, but in the second period the E(Rit) exceed the (Rit) but they were very closed to each, the researcher can say in the second period the gap in not significant. Which means the CAPM was able to predict the returns in period of (2012-2015). From the same figure above it appears that there is noticeable result in the years (2014-2015) it almost equal in returns.

8.6 The 6th company: **AGTHIA**

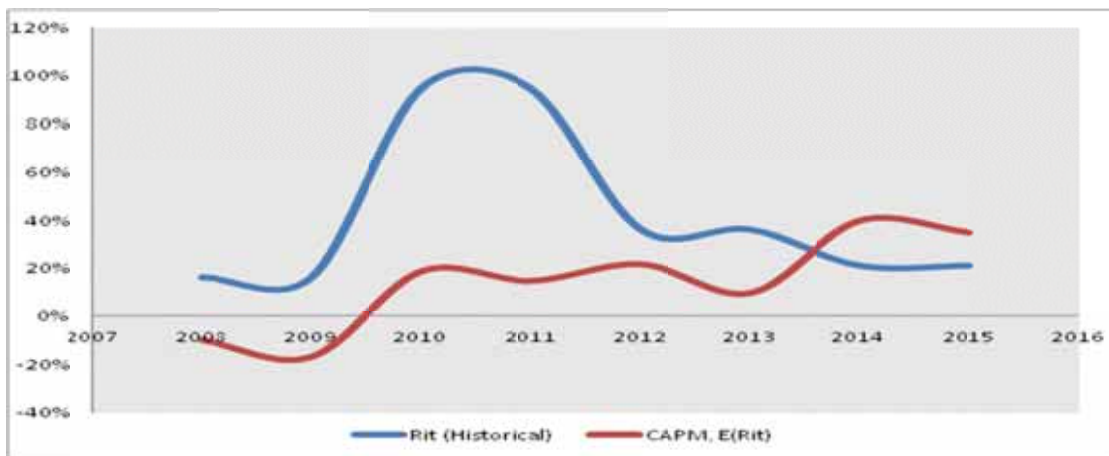


Figure 8. Scatter chart output from Microsoft Office Excel software for the AGTHIA Company

AGTHIA: this Symbol indicates to the AGTHIA GROUP PJSC. It is one of the Abu Dhabi companies in the Consumer Staples sector, given the figure above researcher found that the time series from 2008 to 2015, when make comparison between the (Rit) and E(Rit) it was very high gap and the Historical Return (Rit) almost exceed the Expected Return E(Rit), this case shows the weakness of CAPM to predict the return in the ADX for a whole period of study.

8.7 The 7th company: **ADCB**

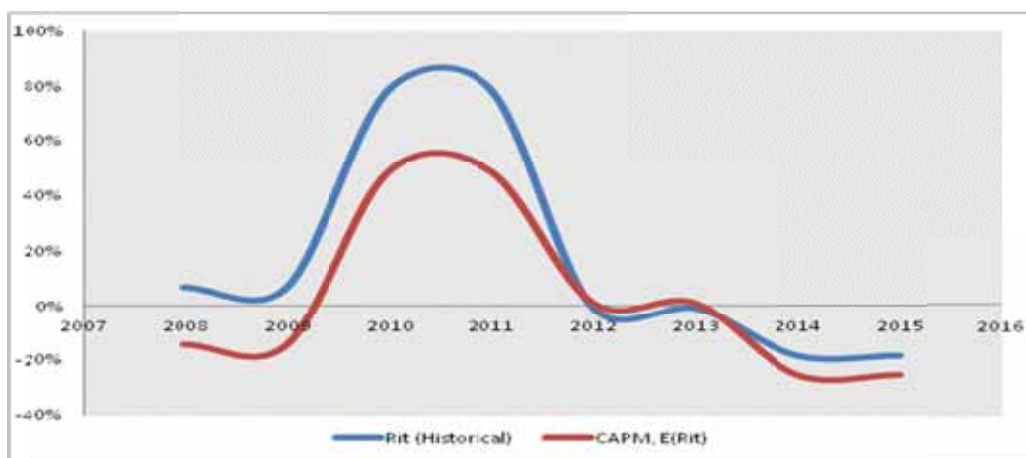


Figure 9. Scatter chart output from Microsoft Office Excel software for the ADCB Company

ADCB: this Symbol indicates to the Abu Dhabi Commercial Bank. It is one of the Abu Dhabi companies in the bank sector, given the figure above researcher found that the time series from 2008 to 2015, when make comparison between the (Rit) and E(Rit) it was very small gap and the Historical Return (Rit) almost exceed the Expected Return E(Rit), this case shows the strong ability of CAPM to predict the return in the ADX for a whole period of study. Actually this is interesting result.

8.8 The 8th company: **ADIB**

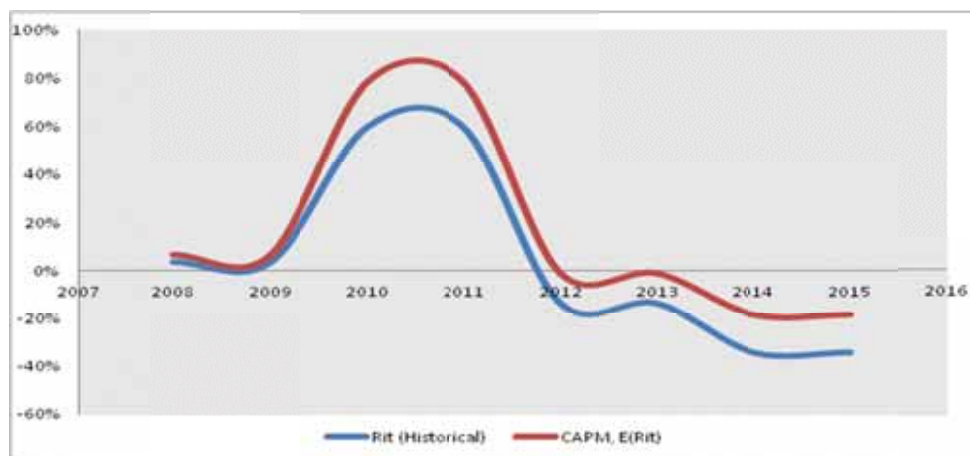


Figure 10. Scatter chart output from Microsoft Office Excel software for the ADIB Company

ADIB: this Symbol indicates to the Abu Dhabi Islamic Bank. It is one of the Abu Dhabi companies in the bank sector; it is interesting result too like the result in the previous bank, given the figure above researcher found that the time series from 2008 to 2015, when make comparison between the (Rit) and E(Rit) it was very small gap and the Expected Return E(Rit) exceed the Historical Return (Rit), this case shows the strong ability of CAPM to predict the return in the ADX for a whole period of study. The Returns (E(Rit) & (Rit)) went in the same direction without having fluctuated or volatility between them.

9. Conclusion

This study is the first of its kind which conducted on the Abu Dhabi Securities Exchange (ADX) where it dealt with differences between the actual returns and the expected returns calculated by capital asset pricing model, includes many sectors: Insurance, Services, Industrial, Consumer Staples and Banks, by using time series analysis that showed that the capital asset pricing model could not to predict the returns were generated by companies in Abu Dhabi Securities Exchange (ADX), except in the banking sector, it showed the ability of CAPM to predict the Historical Returns.

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Modelling the Relationships between Internal Marketing Factors and Employee Job Satisfaction in Oil and Gas Industry

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Abstract

Employees have long been playing the pivotal role in service organizations to achieve a success-oriented goal. The oil and gas industry is included in the high rising sectors in the world's economy. Due to economic turmoil in this sector, a fear of being laid off remains in an employee's mind. Thus, the goal of this study is to assess the impact between internal marketing factors (e.g., extrinsic and intrinsic employee rewards, leadership, internal communication, and training and development), and employee job satisfaction in the oil and gas industry. There were 215 complete and usable questionnaires received, and the answers varied among the demographic and functional designation within the oil and gas industry. Multiple regressions were utilized for analysis of data. Results revealed that internal communication is recognized to have the strongest effect on employee job satisfaction in the oil and gas industry. Organizations must emphasize on communicating to all level of employees by setting clear directions and key priorities in the organization, provided that the communications are not misled through upward and downward streams. Furthermore, organizations are to create a space for employees to give clear instructions via e-mail, paper, telephones, and face-to-face communication. A management can utilize the research results by conducting such internal marketing practices to keep their top rated employees within the organization.

Keywords: internal marketing, job satisfaction, employee rewarding, leadership, training and development, internal communication

1. Introduction

Human resources contribute towards the success of business productivity in the global market via its effective branding principles and practices in human resource management area (Alniaçık & Alniaçık, 2012). "The application of branding principles to human resource management has been termed employer branding" (Backhaus & Tikoo, 2004, p.501). Organization uses employer branding to promote its image as a right place to work with beside develops awareness among potential and current employees, and stakeholders (Sullivan, 2004). Internal marketing is a new concept in holistic marketing with the belief that satisfied customers come from satisfied employees (Kotler & Keller, 2009, p.62).

Malaysia is the second largest oil and natural gas producer in Southeast Asia, while being the second largest global exporter of liquefied natural gas due to its strategic location amid important routes for seaborne energy trades. Countries like China, India, Vietnam, and Indonesia were the top four-highest oil reserve producer in the Asia-Pacific area, followed by Malaysia which had four billion barrels as of January 2013 (Oil & Gas News, 2017). Most of Malaysia's oil comes from offshore fields, including Labuan offshore oil field. As oil and gas industry jobs are complex and concentration-oriented, there remains difficulties for organizations to reduce their employee attrition rate and control high volumes of job switching. Implementing internal marketing would motivate employees to stay focused in meeting customer needs because they have direct dealings with them (Aburoub, Aladwan, & Hersh, 2011; Gummesson, 2000). Indeed, Gummesson (2000, p.28) states that "an employee's ability to influence and satisfy the needs of others inside the organization is considered an antecedent to external customer satisfaction".

Organization with excellent service quality practices an effective internal customer relationships aiming towards generating satisfied customers. Kotler and Keller (2009) mentions that "satisfied customers come from satisfied employees". Therefore, the issue of implementing strategies like training and development, leadership, rewards,

and communication within the context of internal marketing to satisfy internal customers are important for organizational service excellence. In reference to this, the goal of this study is to assess the impact between internal marketing (IM) factors (i.e. extrinsic and intrinsic employee rewards, leadership, internal communication, and training and development), and employee job satisfaction in the oil and gas industry.

2. Literature Review

This study developed a proposed research framework by using the theory of Berry's Model (1981) and the framework of Al-Hawary, Al-Qudah, Abutayeh, Abutayeh, and Al-Zyadat's (2013) Model as the guiding principle. Berry (1981) noted that employees need enhanced motivation for retention. Berry also noted if the level of employee satisfaction is increased, there is possibility in generating greater external satisfaction and loyalty. Indeed, if an employee is seen as a customer, and a job as a product using the external marketing mix technique, engaging an employee internally would lead to employee satisfaction and thus, attract and maintain customer-oriented employees within the organization.

IM is referred to "the process of attracting, developing, motivating, and retaining qualified employees through job products that satisfy their needs" (Berry & Parasuraman, 1991, p.151). The impact of IM extends beyond the employee-firm relationship on its ability to link employee satisfaction to superior service quality (Homburg, Hoyer, & Wieseke, 2009; Sousa & Coelho, 2013). IM starts right from the beginning of recruitment and selection of the right employees, to selection of a satisfying position and showing positivity in doing work to thus, achieve customer satisfaction (Al-Hawary, 2013). Employees play an important role on customer service as customers need immense attention on personalization and empathy (Boukis & Gounaris, 2014; Dahl & Peltier, 2013; Suki, 2014).

The followings section reviews: extrinsic and intrinsic employee rewards, leadership, internal communication, training and development, and employee job satisfaction.

2.1 Employee Rewards Program

Both extrinsic rewards and intrinsic rewards, forms of employee motivation or recognition, influences employees work engagement and productivity, job satisfaction, and intention not to switch to other organization (Deci & Ryan, 1985; Kwasi & George, 2011; Tymon, Stumpf & Doh, 2010). The first consists of aspects like pay, promotions and benefits, work location, and working conditions (Sturman, Brown & Simmering, 2003) while the latter composes receiving positive values for doing meaningful works (Spreitzer, Kizilos & Nason, 1997; Thomas, 2009; Thomas & Tymon, 1994, 2009). The strategy to retain good employees involves understanding what they want besides a salary and benefits (Gopal, 2011). Based on prior literature, the following is hypothesized:

H1: Extrinsically rewarding employees positively influence employee satisfaction.

H2: Intrinsically rewarding employees positively influence employee satisfaction.

2.2 Leadership

Leadership is defined "as the ability to influence a group towards the achievement of a vision or a set of goals" (Robbins & Judge, 2014, p.204). Leadership is a process where multilevel leader-follower communication transpires in a particular way to share a purpose and jointly accomplish things willingly (Yammarino, 2012). Moreover, Du Plessis (2010) and Waldman, Ramirez, House and Puranam (2001) stated that a CEO with charismatic style of leadership is responsible of firm's performance where he strategizes the company's planning in line to its vision and mission, monitoring business activities, providing necessary support, and technical assistance towards long-term competitive advantage. Leadership affect the association between the leaders and the employees, and the way they perform changes to achieve a common goal (Du Plessis, 2014). Hence, it is postulated that:

H3: Leadership positively influences employee satisfaction.

2.3 Internal Communication

Internal communication is the field of work in an organization that makes or changes the work-related connection among the members of the organization, such as from employee-to-employee, and line manager-to-subordinate to achieve a business goal (Eva, 2012). Earlier scholars noted that high job satisfaction and performance is affected from high power uphold by immediate supervisors (Eva, 2012). Besides, Edelman Trust Barometer (2012) found that businesses that are more trusted "treat employees well" and openly share information. Thomas, Hartman and Zolin (2009) indicated that "when employees perceive that they are getting information from their supervisors and coworkers that is timely, accurate, and relevant, they are more likely to

feel less vulnerable and more able to rely on their coworkers and supervisors” (Thomas, Hartman and Zolin, 2009, p.302). Subsequently, flow of information would help both employer and employee to be in a win-win situation. Thus, the following hypothesis is posited:

H4: Internal communication positively influences employee satisfaction.

2.4 Training and Development

Training is “a systematic process of providing an opportunity to learn the knowledge, skills, and attitudes (KSA) for current or future jobs, whereas development refers to the learning of KSA” (Thacker & Blanchard, 2006, p.10). Investment in employee training adds significantly towards raising an organizations’ performance and productivity (Scott & Meyer, 1991). Preceding research has suggested that continuous efforts are needed to ensure effective and adequate training is provided to employees in order to achieve organizational goals with a higher degree of commitment, confidence, and satisfaction towards their organization (Bulut & Culha, 2010; Ehrhardt et al., 2011). Training can also be considered a way to improve employee’ satisfaction levels concerning their personal and professional development (Dhar, 2014). Thus, it is hypothesized that:

H5: Training and development positively influences employee satisfaction.

Figure 1 illustrates the proposed theoretical framework anticipating that extrinsic and intrinsic employee rewards, leadership, internal communication, and training and development have a significant effect on employee job satisfaction in the oil and gas industry.

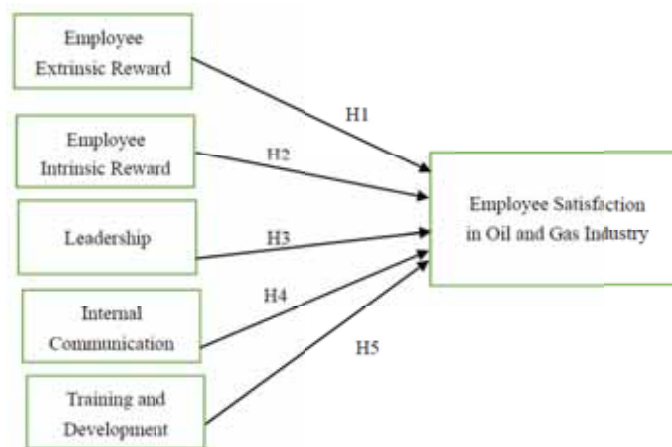


Figure 1. Proposed Theoretical Framework

3. Research Methodology

The targeted participants were identified on the basis of their demographic and functional designation within the oil and gas industry in the Federal Territory of Labuan, Malaysia. There were 300 self-administered questionnaires distributed to the respondents, 215 of which were complete and usable with an 83% response rate. Data was collected from 01 March 2016 to 30 May 2016. The participants were also followed up through phone calls and personal meet-ups at their workplace. The respondents were selected on the basis of simple random sampling whereby each respondent in the population has equal chance to be selected as a sample (Churchill, Brown & Suter, 2010, p.338).

The questionnaire is designed into three sections. Section A is related to generic information regarding the socio-demographic profile of the respondents, including gender, age, and income. Section B is comprised of questions about the respondents’ experiences with internal marketing practices such as frequency of receiving rewards, type of rewards, frequency of training, types of training, scope of leadership, type of interdepartmental employee communication, management, etc. Section C presented scaled questions related to internal marketing factors like extrinsic employee rewards, intrinsic employee rewards, leadership, internal communication, training development, and employee job satisfaction which were measured on a 5 point Likert scale ranging from “1=strongly disagree” to “5 = strongly agree”. Multiple regressions were utilized for analysis of data via the Statistical Package for Social Sciences (SPSS) computer program (version 22) with the main aim to test the effect of independent variables (i.e. employee extrinsic and intrinsic reward, leadership, internal communication, and training and development), and dependent variables like employee job satisfaction in the oil and gas industry.

4. Data Analysis

Table 1 presents the demographic information of the respondents' whereby out of 215 respondents, 59% were males while 41% were females. Less than half of the respondents (42.3%) were aged between 25-30 years. More than three-quarters of the respondents (77%) earn a monthly income of less than RM7000 and holds a position of manager, supervisor and cluster head with more than 5 years of working experience in the oil and gas industry.

Table 1. Descriptive statistics of respondents' demographics

Variable	Frequency (N =215)	Percentage (%)
Gender		
Male	127	59.0
Female	88	41.0
Age (Years)		
19 - 24	34	15.8
25 - 30	91	42.3
31 - 36	59	27.4
37 - 42	31	14.4
Monthly Income (RM)		
< 5000	111	51.6
5001 - 7000	54	25.1
7001 - 10000	25	11.6
10001 - 15000	14	6.5
15001 - 20000	11	5.1
Department		
Technical	120	55.8
Non-Technical	95	44.2
Job Position		
Clerk	52	24.2
Executive	83	38.6
Supervisor	50	23.3
Manager	22	10.2
Cluster Head	8	3.7
Working Experience in Oil and Gas Industry		
1 - 3 years	66	30.7
3 - 5 years	54	25.1
5 - 7 years	33	15.3
7 - 9 years	29	13.5
>10 years	33	15.3

4.1 Reliability Analysis

Reliability tests were executed on each variable to ensure its measured items are error free and consistent across the various items in the instrument. Results in Table 2 detail that reliability statistics values show a discrepancy from 0.793 to 0.934, and hence falls within the recommended value of 0.70 by Hair, Black, Babin, Anderson, & Tatham (2010). Consequently, the questionnaire has high reliability.

Table 2. Reliability analysis

Variables	No. of Items	Cronbach's Alpha (α)
Employee Extrinsic Reward	5	0.827
Employee Intrinsic Reward	8	0.864
Leadership	10	0.934
Internal Communication	6	0.889
Training and Development	5	0.913
Job Satisfaction	5	0.876

4.2 Correlation Analysis

Pearson correlation analysis was performed to test the association between extrinsic employee rewards, intrinsic employee rewards, leadership, internal communication, training and development, and job satisfaction. The correlation coefficients in Table 3 listed that a significant connection exist between all independent variables and dependent variables. For instance, job satisfaction is highly correlated with training and development (($r=0.650$, $p<0.01$), followed by internal communication (($r=0.6190$, $p<0.01$). Besides, the highest mean value calculated in the total score is associated with employee satisfaction ($M=3.760$, $SD=0.701$), suggesting a higher level of agreement among the items in this construct. Results imply that on average, the more positive respondents felt about the internal marketing elements, the higher the job satisfaction, bringing towards achieving employee retention.

Table 3. Correlations between constructs

Variables	1	2	3	4	5	6
(1) Employee Extrinsic Reward	1					
(2)Employee Intrinsic Reward	.584**	1				
(3) Leadership	.473**	.681**	1			
(4)Internal Communication	.504**	.535**	.482**	1		
(5)Training Development	.484**	.510**	.556**	.596**	1	
(6) Job Satisfaction	.545**	.565**	.577**	.619**	.650**	1
Mean	3.611	3.565	3.666	3.743	3.708	3.760
Standard Deviation	0.881	0.7812	0.688	0.805	0.760	0.701
Skewness	2.364	1.783	-0.532	2.463	-0.302	-0.252
Kurtosis	19.535	14.585	0.442	19.827	-0.375	-0.15

Notes: ** Correlation is significant at the 0.01 level (2-tailed)

4.3 Relationships on Employee Job Satisfaction in Oil and Gas Industry

The relationship between internal marketing factors and job satisfaction was established via multiple regressions. The adjusted R^2 of this model is 0.558, meaning that 55.8% of the variance in the dependent variable is explained by the independent variables (see Table 4). Moreover, the examination of the results confirmed that there is no error in auto-correlation problems as the Durbin-Watson value is close to 2 (i.e. 1.809). The F -value is 55.041, which is highly significant, as $p<0.01$, proving the model will improve the ability to predict the outcome variable.

Table 4. Relationships between internal marketing factors and employee job satisfaction

Variable	Unstandardized Beta Coefficients		Standardized Beta Coefficients	t	Sig.	Result
	B	Std. Error				
(Constant)	0.634	0.195		3.247	0.001	
Employee Extrinsic	0.121	0.047	0.153*	2.578	0.011	H1 Supported
Employee Intrinsic	0.072	0.062	0.080*	1.151	0.251	H2 Not supported
Leadership	0.172	0.067	0.168*	2.555	0.011	H3 Supported
Internal Communication	0.208	0.053	0.239*	3.914	0.000	H4 Supported
Training Development	0.276	0.057	0.300*	4.821	0.000	H5 Supported
Adjusted R^2	0.558					
F	55.041					
Sig	0.000					
Durbin-Watson	1.809					

* $p<0.05$

Table 4 details the result of the relationships between internal marketing factors and job satisfaction. As expected, extrinsic rewards exert a strong impact on employee job satisfaction ($\beta_1 = 0.153$, t -value = 2.578, $p < 0.05$), specifying that H1 is held. On the other hand, intrinsic rewards have an insignificant effect on employee job satisfaction ($\beta_2 = 0.080$, $p > 0.05$). The results show that H2 is not sustained. In addition, H3 postulated that

leadership positively influences employee job satisfaction. The standardized beta coefficient of the multiple regressions revealed that leadership has a significant effect on employee job satisfaction ($\beta_3 = 0.168$, t -value = 2.555, $p < 0.05$), inferring that H3 is retained. Moreover, H4 hypothesized that internal communication positively influences employee job satisfaction. The standardized beta coefficient divulge that internal communication significantly affect employee job satisfaction ($\beta_4 = 0.153$, t -value = 2.578, $p < 0.05$), meaning that H4 is persistent. Finally, H5 posited that training and development positively influences employee job satisfaction. Results in Table 4 details that training and development affect employee job satisfaction ($\beta_5 = 0.239$, t -value = 3.914, $p < 0.05$), hence H5 is accepted.

5. Discussion

This study assessed the impact between IM factors (i.e. extrinsic and intrinsic employee rewards, leadership, internal communication, and training and development), and employee job satisfaction in the oil and gas industry. The empirical results revealed that H1 is supported, as extrinsic employee rewards positively influence employee satisfaction in the oil and gas industry. Proving that the employees currently serving the organizations are satisfied with their current monthly salary, bonus, and commissions, they will perform in-line with the practical research outcomes of several practitioners (Anik, Akin, Norton, Dunn, & Quiboldch, 2013; Geiter and Hofmans, 2015). The hypothesis also confirms that terminal benefits, and updating knowledge through providing training on newly installed technologies reflects employee job satisfaction and intention not to switch to other organization (Deci & Ryan, 1985; Tymon et al., 2010).

The impact between intrinsic rewards and employee job satisfaction in the oil and gas industry is insignificant, signifying that intrinsic employee rewards do not have any effect on employees to become satisfied and make decisions to remain or quit. Hence, H2 is not maintained. In their study on intrinsic motivational factors in employee job satisfaction and retention within the organization, Samuel and Chipunza (2009) proved a positive results. The study results revealed that employees seldom attend annual conferences organized by the organizations, because they find difficulties in receiving monetary awards for their performance appraisals. Indeed, they feel insecure with the current job received, which proves the lowest mean result in the descriptive analysis in the study. The supervisory roles are important in helping employees make decisions independently in ad-hoc activities to make the job more exciting and interesting. The highest mean result added that the supervisors should help their employees through giving guidance by showing the right way to do the job.

Further examination of H3 on whether leadership positively influences employee job satisfaction in the oil and gas industry divulges that this proposition is held. Indeed, this factor has the highest standardized beta coefficient value of all the independent variables and has a significance level of 99%. This result is comparable to that of Amundsen and Martinsen (2014). It affirms that employees seek strong leadership as their guide to provide mental support and co-operation in completing their goals. Employees also find themselves satisfied with their organization and work, which makes them feel self-belongingness and thus, retain for a longer period of time. A transformational leader has the ability to carry out delegation of work among employees, good initiation, and provide a focused goal for attainment (Yammarino, 2012). As the organization is a single entity, a leader should influence all its employees through meaningful, productive, and effective influence (Olaniyan & Hystad, 2016).

Next, internal communication is recognized to have the strongest positive effect on employee job satisfaction in the oil and gas industry, implying that H4 is reinforced. Organizations must emphasize on communicating to all level of employees by setting clear directions and key priorities in the organization, provided that the communications are not misled through upward and downward streams, relating to the statement made by Mishra, Boynton, and Mishra (2014). Furthermore, organizations are to create space for employees to have clear instructions via e-mail, paper, telephone, and face-to-face communication. Likewise, the multiple regression analysis results shown that training and development significantly affects employee job satisfaction in the oil and gas industry. Thus, H5 is upheld. This is parallel with the affirmation by Huang and Rundle-Thiele (2015) whereby in internal marketing, training and development plays a formal role to ensure employees are satisfied and will stay. As training and development is an important measure to keep employees up-to-date with knowledge, skills and technologies to sustain a good manpower pool in order to achieve an organizational goal together, organizations are working and doing research continuously to improve their manpower. Organizing proper inductions and orientation programs can help employees to feel comfortable and secure while reflecting the brand image of the organization. Thus, employers should focus more on improving the employees' knowledge, skills, and aptitudes.

6. Conclusion

In a nutshell, training and development was found to be the strongest predictors of job satisfaction. The study

findings provide some important practical implications for research and internal marketing, as employee satisfaction and retention continues to be important research issues for the organizations. Notably, internal communication as well as training and development showed the highest descriptive statistics towards job satisfaction. Successful communication among the co-workers, supervisors and subordinates can create harmony to achieve a goal and sustain development within the organization. Providing ample knowledge through different means, such as on-the-job training or off-the-job training, would let both the organization and employees be in a win-win situation. The organization gets the opportunity to improve in intrinsic and extrinsic rewards for their entry-level employees to retain them for future succession plans. The analysis of the result is an example for managers to follow to identify the loopholes in retaining their highly talented and knowledgeable people for a longer period of time.

Organizational support, rewards, empowerment, and training could be the monitoring factors in providing excellent service quality to customers (Ahsan & Awan, 2015). Thus, these commitments will affect employee job satisfaction and their service attitude towards peers and customers (Babakus, Yavas, Karatepe, & Avci, 2003; Bohlander & Kinicki, 1988; Ferrell & Hartline, 1996). Organizations must put in more effort on intrinsic rewards as the employees are the internal customers who make the organization a brand to the external customers. To develop commitment from employees and customers, the management team should focus on promising employees job satisfaction (Awan, 2010). According to Deci and Ryan (1985), an employee must feel free from pressure, such as rewards or contingencies. An employee's level of satisfaction toward his job varies with specific aspects of the job (Sarker, 2014) and it depends on such factors like the nature of the work, pay, promotion, co-workers, and organizational context (Sarker & Shabnam, 2012).

In regards to academic implications, the proposed framework can be used by academicians to extend their research work. This model can be used as an example in other industries, as the study was based on Berry (1981)'s model and Al-Hawary (2013)'s model. It is a terrific opportunity for researchers to collaborate based on the result, and nurture with mediating factors to identify how gender, age and income can create an effect in the workplace. The academicians can take advantage by using more variables, whether dependent or independent, to identify bottlenecks and provide evidence to improve the relationship between management and employee. The additional variables could help find results which would be fruitful to managements to improve weak areas. Secondly, the sample size is 215, as the area covered is only the Federal Territory of Labuan, Malaysia, which does not represent the whole of Malaysia in general, as there are other places where oil and gas industries are present.

Finally, the industrial coverage is also narrowed down, as the research is conducted only in the oil and gas industry. Future research should blend and extend the involved industries, from the manufacturing of fast moving goods, to many other industries in addition to oil and gas. Although the study has yielded some new insights into the subject matter, it limits the generalization of the coverage of the study. Further research needs to cover the total companies involved with random sampling and have participants spend a longer time period on completing the survey, as the companies have required a number of reminder calls to get the questionnaires complete. Further research should include employee workplace environment and health and safety measures, and its relationship between job satisfaction and employee retention. Expanded number of variables and sample sizes with mediating effects can be included for future study.

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Policy Implementation of Improving Education Quality of Primary Education Teachers in Laos and Indonesia

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Abstract

The purpose of this research is to get deep meaning of policy implementation to improve quality of primary education teachers in Laos and Indonesia. Research locations are in the Ministry of Education in those both countries. This research used a qualitative approach with a multi-case study design. *First*, policy formulation consider the aspect of novelty and national education goals; *second*, policy dissemination of existing policies do after getting approval from parliament, as well as socialization is done to the department of education in each provinces and districts; *third*, policy implementation process is done by establishing a monitoring team to oversee that the policy can work well; *fourth*, monitoring and evaluation of the implementation is done periodically, at least every six months, and the results of the evaluation are reported to the Ministry; *fifth*, gaps in the policy implementation is because monitoring can not be run with maximum caused by geographical conditions and the weakness of the role of school supervisors; *sixth*, efforts to repair gaps in the implementation of policies to improve the quality primary school teachers is to make laws on the teacher, as well as to provide training to teachers and principals.

Keywords: policy implementation, education quality, teacher quality

1. Introduction

Education is the key word in any effort to improve the quality of human life within which it has a role and objective to 'humanize'. Education is essentially the process of maturation quality of life. Through the process of human expected to understand the meaning and essence of life, and for what and how to carry out the task of living and life correctly. That's why the focus of education is directed to the formation of a superior personality with emphasis on the quality of the maturation process of logic, heart, character, and faith. The highlight was reaching the point of perfection education quality of life.

Thus, to get a good quality education, the governments of Laos, particularly the Ministry of Education and Sport (MoES) Laos began to notice the importance of improving the quality of Human Resources (HR) through the strengthening of education, especially in the field of education basic, and more specific is regarding quality of the teachers.

When compared with the State of Indonesia, it is interesting that in Indonesia there is Law No. 20 of 2003 about National Education System, in particular in article 51, mentioned that "Management Unit of Early Childhood Education, Primary Education and Secondary Education, implemented by minimum service standards and the principles of the School Based Management/ Madrasah ", while in Laos is there is no education law yet which quite clear, so that the education system in Laos is still not quite strong.

Furthermore, with regard to the implementation of the education policy in Indonesia then Sa'ud (2002) suggested that the decentralization of education management showed the delegation of authority in education management from the central government to the autonomous regions, which puts the district/city as the center of decentralization. The shift in power is closely related to the concentration of policy formulation and decision-making. That is, the authority granted to the lower hierarchy of policy formulation and decision-making is an important feature of decentralization. As well as Ben-Peretz (2009) argues that it is basically a policy analysis that uses the application of social science to explain the reasoning and evidence, assess and solve the

problems concerning the wider community.

Some previous relevant studies, such as by UNESCO (1995 and 2011); UNICEF (2011); and UNDP (2014) suggested that one quality of education resulting in an educational institution is of the quality of teachers. Especially for the quality of teachers in primary schools need to be shaded by law in order to produce good academic understanding for students before moving on to secondary education. Against this then in a state needs to be a policy-relevant and measurable in order to improve the quality of teachers in the primary schools.

2. Method

Focus of this research are: a) the formulation of policies improving the quality of primary school teachers by the Ministry of Education; b) socializing Elementary School Teacher Quality improvement by the Ministry of Education; c) policy implementation process quality improvement Elementary School Teachers; d) monitoring and evaluation of the implementation of policies to improve the quality of Primary School Teachers; e) gaps in the implementation of policies to improve the quality Primary School Teachers; and f) efforts to fix gaps in the implementation of policies improving the quality of Primary School Teachers.

The research was conducted over eleven months in two Ministry of Education in Laos and Indonesia. This research is multi-case study of qualitative research which design using the comparative constant method with the steps: (1) data collection from the Department of Pre-School Education and Basic Education, Ministry of Education and Sports (MOES) Laos; (2) continued data collection from the Directorate General of Teacher and Education Personnel, Ministry of Education and Culture, Indonesia.

Based on the sixth of this research focus on the ministry of education in Laos and Indonesia, then researchers conducted a comparative study to find the meaning of improving the quality of education of primary school teachers in order to improve the quality of basic education.

Given this study using a multi-case study design, then in analyzing the data is done by analyzing the data of individual cases and data analysis across cases, (Creswell, 2010). *First*, relate with analyzing the data of individual cases, the data analysis was performed on the individual case the Ministry of Education and Sports in Laos, as well as the Ministry of Education and Culture. in Indonesia, namely with regard to the legislation in force in the field of education, especially in primary education. In the analyzes, the researchers conducted the interpretation of the data in the form of words, in order to obtain the meaning. Because the analysis carried out together with the data collection process, as well as the data collected.

Second, relate with analyzing the across cases. Cross-case data analysis is intended as the process of comparing the findings obtained from each case, as well as the process of integrating between cases. Given this study is between the two institutions the Ministry of Education in the two countries, namely Laos and Indonesia, then the first step by researcher is on the findings of the case at the Department of Primary School, Ministry of Education and Sports, Laos, which continued to the Directorate of Elementary Schools, Ministry of Education and Culture of the Republic of Indonesia. Based on this, further findings of the case that there are arranged categories and themes, analyzed inductively conceptual and narrative explanations made arranged in a certain proportion, and then developed into a substantive theory.

The proportions of the substantive theory I (case finding in the Ministry of Education and Sports, Laos) then analyzed by comparing the proportions and substantive theory II (case finding in the Ministry of Education and Culture, Indonesia) to find the differences in the characteristics of each case as based on different theoretical conceptions. The difference in both cases is made while the findings were then analyzed simultaneously to reconstruct and develop conception of equality cases I and II systematically. Furthermore, cross-case analysis between I and II with the same technique. The final analysis is intended to draw up a systematic conception based on data analysis and theoretical interpretation of the narrative form of the proportions of cross-case which is then used as a material for developing the theory of substantive findings.

The measures undertaken in the analysis across these cases include: (1) using an inductive approach by comparing and combining the findings conceptual of each individual case, (2) results are used as a basis for preparing the statement of conceptual or proportions of cross cases, (3) evaluate the suitability of proportion with the fact that the reference, (4) reconstruct the proportions correspond with the facts of each individual case, and (5) use this process as appropriate, to the limit of saturation.

3. Findings

First, the formulation of policies improving the quality of primary school teachers by the Ministry of Education and Sports in Laos is to consider in six aspects, such as: 1) results from international agencies that partner with the government; 2) the ability of human resources in Laos who are knowledgeable about educational

management; 3) geographical conditions for the distribution of teachers; 4) quality and quantity of higher education teacher; 5) educational background of the teachers; and 6) ability of education funding. Whereas in Indonesia which conducted by the Ministry of Education and Culture is to consider in eight aspects, such as: 1) national development goals in education; 2) the results of the strategic plan produced by the Ministry of Education; 3) the results of the strategic plan that is in each of the provinces and districts; 4) the results of the study of international agencies that partner with the government; 5) geographical conditions for the distribution of teachers; 6) the quality and quantity of higher education teacher; 7) the educational background of the teachers; and 8) the ability of education funding.

Second, improving the quality of policy dissemination Elementary School Teacher by the Ministry of Education and Sports, Laos have steps are gradual socialization, such as: (1) the information by letter from the ministry of education to all the departments of education in the province; (2) conduct training to all staff in the education department in the province that is responsible for the field in accordance with the basic policy of activities issued by the Ministry of Education; (3) from the province provide notification to the district, as well as to all school districts in each area of the new policy of the ministry; (4) provincial staff who have received training from the Ministry of Education, responsible for providing training to the staff in the district; and (5) the staff of the district to provide training to principals and teachers that are relevant to the subject of the policies issued by the ministry of education. The result of all these activities further reported to the Ministry of Education to find gaps in the field and in the framework of the improvement in the future. However, the whole process would require a budget, and for budgeting issues still have to come from the government and the ruling party. Whereas in Indonesia which conducted by the Ministry of Education and Culture is to consider in five aspects, such as: (1) collect all the provincial education department head of the ministry of education policy; (2) upload policies which have been authorized by the government to be read in the web in general; (3) socialization in the area carried out by each province; (4) of the policies relating to technical problems, the teacher quality improvement in every province involving education quality assurance agency, as an arm of the central government in the province; (5) for implementation in each area of the district education offices provide socialization to all principals and school supervisors.

Third, implementation of the policy of increasing the quality of elementary school teachers in Laos is to consider five aspects, namely: (1) mobilization of human resources at the provincial and district level to oversee government policy; (2) funding from the government; (3) a clear regulatory support; (4) empowering school supervisor; and (5) parents and community awareness about the importance of mentoring children in the family as an effort of parental support for education of children in the house. Whereas in Indonesia is to consider in six aspects, such as: (1) empowerment of education quality assurance agencies at the provincial level as a technical representative bodies of the Ministry of Education who were in every province; (2) empowers the board of education in every province; (3) encourage the provincial government to issue local regulations regarding the implementation of the policy of the Ministry of Education; (4) The budget allocation is appropriate and relevant from the government; (5) the deployment of human resources at the provincial and district level to oversee government policy; and (6) empower school committee as part of community involvement in supporting the advancement of education in schools.

Fourth, monitoring and evaluation of policies to improve the quality of primary school teachers in Laos can be interpreted in four ways, such as: (1) that the monitoring and evaluation carried out in an integrated manner between institutions at the Ministry of Education and Sports, Laos is between the Department of Inspection, Department of Teacher Training, until to the provincial, district, and school; (2) that the monitoring is done to ensure that the policies issued by the central government can be implemented up in the area; (3) that the existing monitoring and evaluation was conducted to determine the gap between the real condition of the field with the expected conditions in accordance with the policy; and (4) that the monitoring and evaluation to support primary school teachers in meningkatkan professional capacity to be able to teach well. Whereas in Indonesia is to consider in five aspects, such as: (1) monitoring of the level of the school is the school's obligation to make the school self-evaluation document at the end of each school year submitted to the district education office; (2) monitoring at the district level is done by the provincial education department which in this case is in the field of education quality assurance authority; (3) monitoring at the provincial level undertaken by the Ministry of education in this regard in the directorate general authority of teachers and education personnel; (4) the monitoring process at the district always involves the role of school inspectors; and (5) program of the Ministry of Education on teacher performance assessment conducted each year and shall be followed by all teachers.

Fifth, gaps in the implementation of policies to improve the quality of primary school teachers in Laos can look at two aspects. The first aspect is the internal ministry of education, namely with regard to: (1) limited human

resources who understand true about management education and public policy; (2) regarding the budget allocation for education, especially for teachers; (3) regarding the equitable distribution of teachers from urban to in remote areas; and (4) with respect to the accuracy of the monthly salary of teachers who should have been received on time. The second aspect is the school itself, which is related to: (1) the lack of support from parents to children the importance of education, including the school's needs; (2) a lack of children's learning materials such as books and other educational tools that support learning; (3) still adanyanya multigrade teachers, this is due to a shortage of teachers; (4) the willingness of teachers to learn more professional, it can be observed from the weakness of the teachers in preparing lesson plans; and (5) health and hygiene of children who come from homes are still many who do not clean in a condition that disrupts the learning atmosphere. Whereas in Indonesia is to consider in five aspects, such as: (1) the existence of graduate teacher but did not want to be a teacher; (2) the existence of laws in Indonesia which suggests that teachers should have an undergraduate qualification; (3) many teachers prefer to teach in schools that have access kemudahan transportation than that placed in the interior; (4) the role of the board of education and school superintendent is not maximized.

Sixth; efforts to improve the quality gap elementary school teacher in Laos is to consider seven aspects, such as: 1) with the cooperation between the government and foreign institutions engaged in the field of education to examine together the reality of conditions in the field based on existing reports; 2) formulate relevant policies based on the results of scrutiny in the field and document reports of each of the Department of Education in each province; 3) the bond provides scholarships to students who are completing studies at the college that will be placed as a primary school teacher in areas that are short-staffed; 4) provide training to principals and school supervisors with regard to educational leadership and understanding of learning strategies in the classroom by teachers; 5) the Ministry of Education and Sports (MOES) to optimize the human resources that are relevant for routine monitoring visits spaciousness; 6) Government needs to pay attention to the timeliness of teachers' salaries on a monthly basis; and 7) the need for a recruitment system memadai school superintendent that the school superintendent can portray his responsibility. Whereas in Indonesia is to consider in five aspects, such as: (1) optimize the role of the teacher union republic of Indonesia; (2) the award to the outstanding teachers; (3) the existence of such a program of undergraduate teaching in remote areas, teaching Indonesia, Indonesia intelligent front-line teachers, is a distribution program for young teachers stricken remote areas to fill the shortage of teachers and for learning innovation together with local teachers; (4) promoting educational development planning from the village up to the provincial level; (5) the bond provides scholarships to students who are completing studies at the college that will be placed as a primary school teacher in areas that are short-staffed; (6) training programs and teacher certification in order to support the improvement of teaching quality; and (7) an increase in the role of quality of supervision by the school principal.

4. Results and Discussions

4.1 Formulation of Policies Improving the Quality of Primary School Teachers

Fowler (2004) mentioned that the development of education should be planned carefully and precisely by those who understand the art so as to bring out a policy of strategic and measurable. Based on the statement, as well as the conditions in the two countries, Laos and Indonesia, it can be interpreted that the formulation of educational policy needs to consider several things such as: (1) The geographic aspect of justice; (2) aspects of the needs of the school or district; (3) the funding aspect; and (4) the aspect of global competition.

First, with regard to the geographical aspects of justice. Based on the two countries have a geographical distribution almost the same, where many schools are located in areas that are difficult affordability then justice considerations geography can be interpreted that the education policies issued by the government could consider, such as: (1) the relevance of the policy with conditions in the region; (2) the impact of the policy; and (3) monitoring and continuity of policies. It is important that the planned policy relevant and can cover conditions in a region to equality and the advancement of national education. It is as stated by Kaufman (1979) that the planning of education in a country must consider the condition dinaunginya region, so that the existing policy can have an impact on equity for the region.

Second, aspects of the needs of schools or regions. It is more the role of teachers' needs in the learning process, such as books, educational products, and curricula that are relevant to local conditions. Based on these three things then existing policy formulation can provide space to schools in the region in monitoring local education office to be able to plan the educational needs with proportionate and relevant. It also points out Rizvi & Lingard (2009), as well as Hermino (2013) that the assessment of educational need expressed directly from the region would help the central government in monitoring the condition of education as a whole, so that planning policies generated can lead to partiality relevant.

Third, the funding aspect. It is concerned with the education of equity financing needs and budget allocation by the central government in accordance with the conditions of each area. It also points out Fowler (2004) and Mason (2013) that the financing aspect is a crucial aspect of improving the quality of education in a country, where the proportion and relevance of the financing will affect the spirit of teachers in teaching. The statement can be interpreted also that the strategic policy planning in the field of education budgeting needs to consider: (1) the economic conditions of the school environment; (2) the need for teachers in the learning process; and (3) learning targets in accordance with the demands of the curriculum. The third condition is also aligned such as set by the Kaufman (1979) that one of the efforts to improve the quality of teachers in schools is with the fulfillment of the relevant funding to the schools in order to achieve a better quality of education.

Fourth, aspects of globalization. It is concerned with the development of the current era where modernization and globalization requires the fulfillment of a good quality education. In this regard, the policy planning education in a country should also consider the progress of time in order to compete in the global competition (World Bank, 2011). Under these conditions, the policy planning in order to improve the quality of teachers, especially in primary schools need to consider: (1) the background of teacher education; (2) the qualifications and competence of teachers; (3) the real challenges faced by teachers in school; (4) the relevance of the curriculum to local conditions; and (5) regulation of local support to the presence of the teacher. Fifth it would support the government in planning regulations and relevant policies and clear. This condition as stated also by Munadi & Barnawi (2011) that the formulation of the national education policy should be able to integrate the relevance of regional needs with the demands of global competition, where the two should complement each other and that is why the role of the existing policy needs to consider siding with the teacher as the motor of progress education.

Overall the above description is also in line as proposed by Alisyahbana (2000) in Munadi & Bernawi (2011: 19) that public policy education can be defined as a decision taken jointly by the government and actors outside the government and consider the factors that influence to be implemented or not implemented at the field of education that includes education budget, curriculum, recruitment of staff, professional development of staff, land and building, resource management, and other policies that directly or indirectly berentuhan education.

4.2 Socializing Elementary School Teacher Quality improvement by the Ministry of Education

Socializing in conducting quality improvement Elementary School Teacher by the Ministry of Education needs to pay attention to three aspects, namely: (1) dissemination strategy; (2) the impact of socialization; and (3) follow-up of the results of socialization. It is also like addressed Fowler (2004) and Loomis, et al (2008) that the socialization of a policy program is not just to inform but also to consider the strategy and the sustainability of the results of socialization.

First, dissemination strategy. Socialization strategies need to consider such as: (1) the time is right for the socialization process both at the center and in the provinces and in the region; (2) the right person to provide socialization, that is understood about the policy that is being socialized, and in particular the understanding of the duties of teachers in their responsibility for improving the quality of education; (3) ways to socialize, whether to use the lecture method, brochure or use of relevant technology media; (4) funding for socialization, whether borne by the central government or provincial governments sharing together; (5) ensure that the process of socialization that can be precisely targeted to teachers, and teachers can be ensured to understand the meaning of socialization. Against this it also points out Lewis (1983); Peng et al (2013) that the strategy of socialization of a government policy to be right on target and on time, and using the relevant resources in the delivery of socialization, it is intended that the delivery of strategic programs that can be heard and understood by all parties concerned.

Second, the impact of socialization. Target of socialization are primary school teachers, and thus the expected impact also is to improve the quality of teaching and the quality of the results of the students during the learning process. Against this, the relevant impact of socialization can be observed from the start if: (1) the socialization process using the right people and understand the material being disseminated; (2) the attendees were the right people, both from the teacher and which represents teachers in the right capacity anyway; and (3) allow for election of strategic issues that come directly from the field, which can potentially strengthen the policy of the central government. This condition is also as stated in Fowler (2004) that the impact of socialization is the expected outcome of the process of socialization itself, so that the policy implementation process can run well.

Third, follow-up of the results of socialization. It is as stated in Glewwe (2014) that the socialization process that works is when followed by the right and the result was an impact on the smooth running of government policy during the run. Against this, the follow-up of socialization expected are: (1) a good understanding of the teacher

as the direct recipient of the policy; (2) to improve the quality of teacher performance; and (3) an increase in the quality of learning outcomes of students.

4.3 Policy Implementation Process Quality Improvement Elementary School Teachers

The process of improving the quality of policy implementation Elementary School Teacher needs to consider: (1) the qualifications and competence of teachers; (2) old teachers teach; (3) the geographical conditions of the schools where teachers teach; and (4) the demands of the national curriculum in order to achieve the national goals of education.

First, with regard to the qualifications and competence of teachers, it is in order to be with the policies adopted by the government, teachers can improve the qualifications and competence, both in the methods of teaching and student achievement results achieved. However, as noted in Hermino (2014) that the principal's role is crucial in scrutinizing the ability of every teacher in the school in order to improve the quality of learning. Based on these conditions, the implementation of policies to improve the quality of teachers can work well if there is engagement and good leadership from the school principals.

Second, experiences of teacher teaches. It is intended that the implementation of the policy does not make the teacher to be confused with the experiences that have been obtained previously. Furthermore, too, that the new policy is expected to be able to support teachers to improve their knowledge and innovation in the learning process does. Hanson (2003) and Skaalvik & Skaalvik (2013) suggests that the combination between the experience of teachers teaching with the policies issued by the school or the government will be able to improve the competence of teachers in teaching. Observing this, it can be interpreted that the implementation of policies to improve the quality of teachers will be able to run properly if the direct beneficiaries that teachers can understand them properly in accordance with local conditions and the school where the teacher teaches.

Third, the geographical condition of the school where the teacher teaches. An implementation of the policy will be targeted and successful if attention to the geographical and social conditions of the local (Fowler, 2004). Based on these statements, it can be interpreted that efforts to improve the quality of primary school teachers in each region is different of course, but these differences can be a force for the development of national education system in a country where in the policy planning attention and consider the geographical aspects of justice. Geographical Justice here means that the central government leaving room for teachers both in urban and remote areas to develop creativity and innovation in teaching methods, but remained within the umbrella of the policies imposed by the government. It is also as stated by Reinhartz & Beach (2004); Peng et, al (2013) that the policy issued by the government is still providing space and opportunities for teachers to be creative and to increase its capacity but remains within the guidelines of national policy.

Fourth, the demands of the national curriculum. It is better to order the implementation of national policies can lead to national development goals set by the government, while the national curriculum is as a means to achieve the goal of national education (Hamalik, 2010). With regard dengann these conditions, the implementation of policies to improve the quality of teachers is also necessary synergy with the national curriculum itself. Similarly, the central government with the resources that exist for the socialization of the policy also provides an understanding of the national curriculum imposed. Furthermore, also in its implementation still required the assistance to the teachers so that the teachers' creativity and innovation space can still be developed in line with the national curriculum enacted and national goals of education is to be achieved.

4.4 Monitoring and Evaluation of the Implementation of Policies to Improve the Quality of Primary School Teachers

Monitoring and evaluation of the implementation of policies to improve the quality of Primary Teachers need to consider several things such as: (1) indicators in monitoring and evaluation; (2) the time and the process of monitoring and evaluation; and (3) follow-up of monitoring and evaluation. It also points out Fowler (2004) that the monitoring and evaluation of a policy will be able to show the level of success of the policy.

First, with regard to indicators in monitoring and evaluation. It is as stated also in Fowler (2004) that the determination of the indicators in a monitoring and evaluation process will be easier for the government in monitoring the success rate including the constraints and barriers during the implementation process runs. Observing this, the indicators in monitoring and evaluation is relevant to the government's competence expected of teachers in order to implement the policy. The indicators of teacher competence that was also to be informed of the national government to the teachers so that every teacher without exception knowing what things are become government policy.

Second, the time and the process of monitoring and evaluation. It is intended that the monitoring process is going

well according to the scheduled time. Given the schedule, the school can prepare and prepare time well too. Against the monitoring process is carried out based on the indicators that have been set by the government and which has also been previously socialized. However, for the implementation of the time and process monitoring by both the provincial and central governments can work well, the process of monitoring and evaluation on a regular basis can be done by school inspectors, who also acts as a supervisor at the elementary schools. It also points out Owen (1995) and Rodriguez (2014) that the superintendent of schools should serve not only as a school superintendent, but also perform the function of management in the form of supervision to target schools that are responsible so that the national policy set by the government may also running well.

Third, the follow-up of monitoring and evaluation. During the process of monitoring and evaluation will certainly obtain the things achieved and not achieved, or what works and does not work, according to the indicators that have been set with regard to efforts to improve the quality of teachers. Based on real data from the field can be mapped out next government: (1) schools where the teacher has not been reached maximal competence; (2) what things are still to be given to teachers in order to achieve competency standards expected by the government; and (3) gab is happening in the field that should be achieved as a target of the government. It also points out Hermino (2013) that their school mapping will allow the central government in monitoring the implementation of policies that are being implemented.

Overall the above statement is also in line as proposed in Fowler (2004: 13) that The policy process is the sequence of events that occurs when a political system considers different approaches to public problems, adopts one of them, tries it out, and evaluates it.

4.5 Gaps in the Implementation of Policies to Improve the Quality Primary School Teachers

Gaps in implementation of the policy of improving the quality of Primary School Teachers. It aims to determine the conditions that occur in the field with the expected conditions, including the root problems that arise with regard to efforts to improve the quality of teachers (Glewwe, 2014). Based on these statements, it can be interpreted that the gab that occur in the field will help the government in such things as: (1) obtain the latest achievements of the quality of existing teachers; (2) the constraints and obstacles during the process of policy implementation; (3) the root of the problem so the present of the gab; and (4) mapping the roots of the problem based on the location of the school, the needs of schools and teacher competence. Further to achieve the intended fourth thing then there are two things that need to look like: (1) indicators set by the authorities with regard to the competence and qualification of teachers to be achieved must be relevant and measurable; and (2) the necessity of harmony between the implementation of the national curriculum with efforts to improve teacher quality to be achieved.

The condition also as suggested by Ben-Peretz (2009); Mason (2013) also confirmed that by the policy-relevant education and firmly in a country, then the country will have a direction education programs is also clear, and will further strengthen the development of strategic plan for education that is relevant to the need for States as well as with respect to the global competition in education today.

Referring to all of the above three things regarding the gaps in the implementation of policies to improve the quality of primary school teachers, then there are three variables or factors that influence the emergence of these gaps, namely: a) Policy variables. Which included policy variable is the clarity of the policy objectives, the transmission (policy delivery). Unclear objectives and policy delivery to the implementor cause a difference in perception. This condition will complicate the process of policy implementation will be; b) Variable or organizational factors. One public policy should be implemented through an instrument or tool as well as a specific vehicle, in short there is no public policy without associated with a particular device. Instruments for implementing public policy in the context of the state administration dilasanakan through organizations or public organizations. Organizations that meant the author is not an organizational structure but rather on personnel (the implementing agency); and c) Implementation environment variables or factors. One of the policies implemented by the organization or group of organizations do not occur in a vacuum, but implementation has occurred in a particular environment. Implementation environment can be shaped condition of public education, social conditions under which the policy was implemented and political conditions.

Overall statement above is also in line with that proposed by Tilaar (2009); Marshall & Gerstl-Pepin (2005); and Ben-Peretz (2009) that if the policy carried out in two different environments will give different results, so the application of the policy must pay attention to the policy environment in which this policy is implemented. Similarly affirmed by Rizvi and Lingard (2009); and Jones (2013) that the other difficulties that hinder the implementation of the policy, may also be influenced by the orientation or interest officials or heads of local governments to the existing policy. Many issues that must be done, priority choice what policies will be

implemented depending on the interest and the orientation of regional leaders.

4.6 Efforts to Fix Gaps in the Implementation of Policies Improving the Quality of Primary School Teachers

There are some constructive efforts in order to improve policy implementation gaps on improving the quality of primary school teachers, such as: (1) the existence of a working group of teachers; (2) working group principals; (3) the core school and school impact; (4) empowering the board of education in the region; (5) empower the school committee; (6) empowering the role of supervisor of the school; (7) political education budget in favor of improving the quality of education; and (8) the annual national discussion education as the central government steps to capture the aspirations of the regions and the central government in an effort to propose national policies in education is to be achieved. This condition is also as stated in Fowler (2004); Loomis et,al (2008); Mason (2013) that need to be real and strategic efforts in addressing the disparities that occur during the process of implementation of the policy subuah, for the target to be achieved can be managed properly.

First, the working group of teachers. This working group can do in their respective schools on a monthly basis or in accordance with the needs of the school, led by principal who acts as a supervisor. The teachers working group talks about things that annoy experienced by teachers during the teaching process, or the difficulties faced by the teacher. The presence of the teacher working group will greatly assist teachers in monitoring the root of his problems during the teaching process, as well as a space for teachers to share their experiences in order together to improve the competence of teachers in the school. It is also as stated by Mulyasa (2011) that the professional group of teachers at the school were done regularly will increase the capacity of the role of school principals and teachers to jointly promote the existing education at the school.

Second, the working group principals. It is an effort to ensure the competence of principals in schools that are adjacent to or within a cluster can share their experiences, both in terms of leadership and management aspects of the school. The working group's principals led directly by the school superintendent as the supervisor of schools that became auxiliaries. It also points out Mulyasa (2011) that the capacity of school leadership can be enhanced by the holding group of principals.

Third, the core school and school-induced. The core school is a school with the capacity and competence of teachers who fulfills the adequacy of the indicators set by the government, while the spillover schools are schools around the core school is still in one cluster, which still requires improving the quality of existing teachers. Their school and school-induced core is based on the mapping carried out by the government and based on the analysis of gab obtained during the evaluation process and monitoring in the field. It is also as stated by Rival & Pure (2009) that the education management will be able to walk properly in accordance with the national policy of education in a country where their school mapping in a comprehensive manner, and informing their schools can be used as a core school or school example, which aims to provide a positive impact on surrounding schools were still not up to quality.

Fourth, empowering the board of education in the area. It is intended that their shared responsibility in the region to jointly pay attention to education and the quality of teachers in schools in the area. Board of education can be interpreted as a local government partners in an attempt sense of belonging to the existence of schools in the area, as well as mutual concerned about the welfare of teachers in the area. Board of education can function also as the 'home' for teachers to be able to express their aspirations against the constraints and barriers experienced when the school and the school committee was not able to solve existing problems. However, the existence of the board of education can be a strategic partner governments in an effort to assist the process of implementing policies in the area (Fowler, 2004).

Fifth, empowering the role of the school committee. Mulyasa (2011) argued that the existence of the school committee can help smooth the process of education in a school, and their presence can also help the government in implementing a government policy. Meanwhile, with regard to improving the quality of teachers, then Glewwe (2014); Mason (2013); Rodriguez (2014) suggested that their involvement in school committees giving insufficient attention to the needs of schools will help teachers to improve the quality of learning in schools. Referring to this, the necessary regulations to overarching presence school committee, and it is also necessary to build the capacity of the school committee's role in helping to improve the quality of teachers in schools. As examples of relevant training is such an understanding of education in the family, because of the presence of these, the responsibility of the education of children is not just handed over only to the schools, but in society and the family, the education of children remains a common concern. With the synergy of the attention it will be easier for teachers to continue to pursue the achievement of better learning.

Sixth, the empowering role of school supervisors. The school superintendent are professionals who understand the field of education, and its existence is a representative of the local education office to provide supervision to

help schools become surrogate in order to improve the quality of education (Hanson, 2003). Observing the statement, the appointment of school supervisors based on: (1) the competence and qualifications, not on seniority or rank or age; (2) academic eligibility demonstrated academic achievement; and (3) the practical feasibility of commitment shown by the work program to be carried out.

Seventh, political education budget in favor of improving the quality of education. Politics budget in question is with regard to teacher salaries that are relevant and can be received on time. Relevance salary teachers need to be shaded by law so that there is transparency, as well as taking into account the geographical fairness in schools where teachers teach. Fowler (2004) asserts that political education budget should be based on national goals of education is to be achieved and based also on the conditions of each area. Under these conditions, with budgeting education, especially for teachers' salaries in the amount of relevant and timely unacceptable then this will be the motivating teachers to be able to work well and constantly improving his professional capacity as a teacher.

Eighth, the annual national discussion education as the central government steps to capture the aspirations of the regions and the central government in an effort to propose national policies in education is to be achieved. It is intended that the central government can directly meet with education officials in each area as well as hear directly aspirations emerging from the region, which have not been recorded during the process of monitoring and evaluation in these areas. In addition to the national discussion of education can also be used as a means of reaffirming the central government's national education policy direction and strategies implemented to achieve the objectives of the national education (Djokopranoto, 2011).

5. Conclusion

Based on the overall description above, can be summarized as follows: (1) education policy will be relevant when extracted from the root of the problem and needs assessment in the area; (2) The policy of improving the quality of teachers could be relevant if the government has a clear school mapping and relevant, both from the existence of the school, the deployment of teachers, teacher qualifications, and competence of teachers; (3) the indicators are relevant in assessing teacher performance will allow the government to find the gap that occur in order to improve the quality of teachers; (4) empowering the role of superintendent of schools in the area will greatly assist in efforts to oversee the implementation of policies promulgated by the government; (5) pengalokasian salary budgets that are relevant to the teacher as well as the timeliness of teachers receiving salaries would motivate teachers to be able to work as an educator with the better; (6) national discussion education is a means for the central government to listen to the aspirations of the region with respect to improving the quality of teachers, as well as government facilities are also in reaffirming the program and strategy of implementing existing policies.

Furthermore, the results of this study presented suggestions to: (1) the education department in the province in order to optimize the role of a school supervisor in order to supervise the schools and teachers in order to improve their competence and professional capacity as an educator. Further also that supervisors supervisinya ekolah always communicate the results to the local education department as a school mapping of the condition of education in the region; (2) the Ministry of Education in Laos and Indonesia, in order to increase the quality of teachers dikonkritkan policies in the domain of school-based management with level indicators to be achieved; (3) for educational management experts and researchers in order to examine the implementation of relevant policies to improve the quality of teachers not only of the level of process alone but on the level of the root problems that occur in the field, so that the policy issued will be relevant and on target for improving the quality of education.

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The Association between E-Services Web Portals Information Quality and ICT Competence in the Jordanian Universities

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Abstract

The rapid growth of Internet has given extraordinary opportunities to organizations and business to provide services via the Internet (E-services). Moreover, E-services became a key aspect of any organization competitiveness. In Jordan, most of the universities provide different e-services portals to their students. This paper aims to investigate and explore the association between e-services web portals information quality and ICT competence in the Jordanian universities. The current research conducted by using survey questionnaires on a large population from Jordanian Universities. Specifically, 428 post and undergraduate students answered the survey from different faculties at the Jordanian Universities. Results found a positive relationship between e-services web portals information quality and ICT competence. Results of T-test indicated that there is no significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to gender and faculty type respectively; whereas the results as found a significant difference in the relationship between information quality and ICT competence due to university type. Also, results of ANOVA test indicated that there is no significant difference in the relationship between information quality and ICT competence in the Jordanian universities that can be attributed to academic year level, and academic degree level.

Keywords: E-services, Web Portals, Information Quality, ICT Competence, Jordan, T-test, ANOVA

1. Introduction

Student e-services are the collection of administrative processes that enable universities and academic organizations to provide services for their students. The main aim of students' e-services is to present all related educational data and information to students during their studies as well as after graduation. Therefore, it accumulates and integrates all educational content from different systems at the university and act as hub between these systems such as the financial system, academic and grading system, e-learning system or the LMS/LCMS, library service (Nedeva & Zlatev, 2013). Such services became as standards within the educational e-services for university students (Sutarso & Suharmadi, 2011). Academic organizations and universities offer such services to support and provide educational information to their students to ensure management issues handled and to satisfy students' needs such thing will ensure and meet quality requirements and educational, administrative needs for the university and the students. Moreover, the automation of these services will be handled efficiently and effectively (Masa'deh, & Shannak, 2012) (Kim-Soon, Abd Rahman, & Ahmed, 2014).

The use of e-service at the universities has brought changes to the business process and job roles and shifted some of the responsibilities from staff to students so they can perform different educational activities by the student themselves. This has resulted in reducing the universities workload and involvement in the process (Kim-Soon, Abd Rahman, & Ahmed, 2014). Since the first time students e-service introduced and until now, the quality of student e-service remind questionable in terms if it meets the students requirements and if it satisfy their needs. Previous studies investigated this issue and identified several dimensions as criteria of e-service quality. However, there is an urgent need for a quality of e-service measurement tool and scale as it will help in improving the performance for the university and usability, user satisfaction and experience for students

(Vratskikh et al., 2016) (Yang C. C., 2003).

According to Nedeva & Zlatev (2013), previous research showed that bigger and richer business and organizations could provide better e-services and information to their users. This implies to richer universities compared to other universities with lower income and budget or even struggling ones when providing e-services to the students. Fei Yang (2006) reported that the cost of technology-supported educational systems is serious and critical challenge in developing countries and its educational institutions and universities although it is very important. Moreover, e-service portals are very expensive & time consuming when it comes to development and maintenance (Bringula & Basa, 2011). This research focuses on the Information Quality (IQ) aspect and dimension. Information quality defined by McKinney et al. (2002) as “users’ perception of the quality of information presented on a Web site”. Moreover, Information quality described as the ability of a collection of data or information to meet user requirements (Cappiello et al., 2004) & (Strong et al., 1997).

According to Cappiello et al. (2004), data quality and information quality (DQ/IQ) is a multi-dimensional concept. According to Caro et al. (2006), there is a lack of research on the understanding of DQ/DI from the user perspective due to the different use, categories and characteristics of web portals. Moreover, the user has no control on the quality of data and information presented by the portal. The main aim of web portal from user perspective is to find and retrieve data & information that meet their expectations as the users determine the quality of the retrieved data & information (Wang & Strong, 1996). This research aims to add a better clarity to this research area by examining the relationship between E-Services Web Portals Information Quality and ICT Competence in the Jordanian Universities due to demographic factors. The structure of this paper is as follows. Section 2 discusses the literature review and related work to the research. Section 3 describes the research methodology. Section 4 presents the data analysis and results. Section 5 gives further discussion of the findings and concludes the paper.

2. Research Background

2.1 Research on E-service Quality of Website

Several researchers consider the IT and its flexibility as an enabler to achieve the desired competitive advantages, considered as a strategic weapon, and as a crucial support to operational and strategic business processes (Alkalha et al., 2012; Almajali et al., 2016; Altamony et al. 2012; Shannak et al., 2010; Shannak et al., 2012; Masa’deh et al., 2016). According to IBM (2010) e-service portals is “a single integrated, ubiquitous, and useful access to information (data), applications and people”. Based on above definition, many researchers defined a student’s portal at universities as a gate or place that brings all together student’s information in an organized and coherent way that could have all or some of the student educational and academic, financial and personal information (Nedeva & Zlatev, 2013; Abdulhamid & Ismaila, 2010). Daigle & Cuocco (2002) emphasized the importance of e-service portals adoption by universities as it will “improve productivity by increasing the speed and customizing the content of information provided to internal and external constituencies”. Moreover, the e-services portal will facilitate and improve information and knowledge communication, exchange and transfer among users (Masa’deh et al., 2015) (Kidwell, Vander Linde, & Johnson, 2000).

E-services portals has enabled universities to automate its administrative process and more importantly to personalise educational information. Administrative process and services related to students includes Registration service; students status system (grades, attendance record, financial status, current schedule, withdraw from modules, pay/view tuition, drop or add modules, ... etc), e-learning gateway (class material and lecture notes), research databases (online library service, international library services) (Pena-Bandalaria, 2007). Moreover, Katz & Associates (2002) as described e-services portals at universities as “The new, wonderful, and challenging aspect of Web management posed by portals is the idea of creating and managing information systems whose primary purpose is to sustain positive relationships between an institution’s stakeholders and the institution have described the importance of such services”. On a strategic level, e-services represent a huge chance to the universities in order to boost and improve its competitiveness’ by leveraging research and innovation (Obeidat et al., 2016). This will put such universities on the map of a prestige’s list of universities.

Dale (1999), Cox & Dale (2002), Al Azmi et al. (2012) and Obeidat et al. (2012) emphasized the importance of e-service portals quality. As it will satisfy the end user and because of the quality of e-service portals provided by institution gives real indication about institution commitments to its users and customers. Moreover, users use the e-service portals to provide them with fast-personalized services. This has shifted the concept of user and customer’s service to the concept of mass personalization services with emphasis on having a satisfaction on user experience that will reflect the on e-service portal usability. Several models have been proposed to measure quality factors such as the (e-SERVQUAL) proposed by Zeithaml (2002), this model focus on efficiency,

fulfilment, reliability, privacy, responsiveness, compensation and contact. However, the compensation dimension is not applicable into university student e-service portals as it was based on concepts of both e-service quality and retailing literate.

The (.comQ) model, developed by Wolfenbarger & Gilly (2002). This model focused on reliability, customer service, website design and Privacy/security. The 6i model, developed by Btoush et al (2011), this model described the e-service characteristics. This model is divided into two states: the first state focuses on the Inform, Interact, Intercommunicate and Individualize. The second state of 6i model focuses on the investigation and involvement. Loiacono et al. (2000) developed the WebQual model to measure a website quality. This model focuses on informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow, integrated communication, business and Substitutability. SITEQUAL (site quality) model, developed by Yoo and Donthu (2001). This model focused on ease of use, aesthetics design, processing speed, and security. However, the compensation dimension is not applicable into university student e-service portals as it was based on concepts of both e-service quality and retailing literate.

2.2 Situation in Jordan

The first formal HE institution in Jordan was Jordan University, established in 1961-1962 (Jordan University, 2016). Since then, the number of HE institutions has increased to 30 universities. All the HE institutions fall under the supervision of the Ministry of Higher Education (MOHE). Moreover, the Jordanian government has opened the door for private sector participation in Jordanian HE. This step has led to 20 of the 30 universities in Jordan being privately owned (MOHE-Jordan, 2016).

The Hashemite Kingdom of Jordan is an Arab country located in the Middle East with almost no or little resource and considered a developing country (Khasawneh, 2015). According to Khasawneh (2015), Jordan adopted the use of ICT in all sectors including higher education institutions and universities as part of its strategy to overcome its lack of provision. Jordan has invested in higher education with the establishment of over 30 universities (Al-Sarayreh & Al-Assaf, 2008). Many studies have addressed the quality factors of Jordanian universities websites and e-services portals such as the study conducted by Awwad (2006) which studied the quality factors of Jordanian universities websites; the study of Shaltoni et al. (2015) whom explored the students' satisfaction with universities portals in developing countries. Moreover, Hasan conducted a Heuristic Evaluation of Three Jordanian Universities websites and before that, she evaluated the usability of nine Jordanian universities websites (Hasan, 2013). Allahawiah (2013) studied the Factors Affecting the Use of E-Services from User Perspectives and took Al-Balqa' Applied University website as case study where he explored the major factors affecting user's utilization of e-services offered by Al-Balqa Applied University such as Reliability; Responsiveness; Information quality; Usability; and Security. Alshamayleh et al. (2015) conducted a study on measuring the quality of e-services and its impact on student's satisfaction at Jordanian universities and proposed a model that examined the factors affecting the quality of e-services like responsiveness, Website design, reliability, ease of use, efficiency, availability and privacy.

Based on above, the adoption of the ICT and e-service in Jordanian universities considered as a strategic, urgent and radical step to overcome the shortage in provisions and infrastructure. Moreover, it is important for Jordanian universities to reach the optimum use of their students' e-services and make sure that e-services meet the students' requirements. Such goal requires studying information quality at the university web portals and ICT competence. The importance of this study comes from the fact that there is a need to study if there is any association between e-services web portals information quality and ICT competence in the Jordanian Universities. The results will highlight this area in a depth. It is important to note that most previous studies were targeting the university's website not the e-service portals. Moreover, they were targeting e-service web portals quality factors in general.

2.3 Research on Information Quality E-Services Web Portals Information Quality

Davis (1989) has developed the TAM model, which is suggesting that the determining factor of adopting information technology systems (including the web portals) is the user attitude toward usefulness and ease of use. Based on above, the user attitude toward usefulness and ease of use of a web portal is based on his/her satisfaction of web portal qualities. According to Barnes & Videgen (2005) the WebQual 4.0 model is divided into three dimensions and they are usability, information quality and service interaction. Moreover, Tate et al (2007) have summarised the university web portal into 4 quality factors, these factors are content, usability, service interaction quality, and transaction quality and safety. In their model, Barnes & Videgen (2005) translated and described information quality factor into the following items: accurate information, believable information, timely information, relevant information, easy to understand information, information at the right

level of detail, and information in an appropriate Format. Based on above we can conclude that the information quality of a web portal is a determinants factor of user perceived usefulness and ease of use.

Several models have been proposed to measure information quality factors such as (PDQM), proposed by Caro et al. (2006), the PDQM is data model for web portals that focus upon the data user perspective taking into account the web data quality attributes and web portal functionalities as well. Redman (2000) grouped the data & information quality from the user perspective in a web portal into privacy, Content, Quality of Values, Presentation, Improvement and Commitment. Moreover, Collins (2000) described the web portal software functions such as Data Points and Integration, Content management, Personalization, Presentation, Security, Search capabilities, Taxonomy, Help features, Process and action (workflow). According to Chen & Chang (2010) & Barnes & Videgen (2005) the information quality can judges by how accurate information & content is? from the user perspective, how believable the information & content is ? from the user perspective, how timely the information & content is? from the user perspective, how relevant the information & content is? from the user perspective, how easy the information & content to be understood from the user perspective, how information at the right level of detail, and how information & content showed from the user perspective in an appropriate Format.

According to Knight & Burn (2005), Wang & Strong (1996) summerised the informtion quality into 20 dimentionns. the most imortant among them are:

- Accuracy (To which extent information & content are correct and free of error such as (there is no spelling error or grammar error)),
- Relevancy (To which extent information & content are applicable and helpful),
- Timeliness (To which extent information & content are sufficiently up-to-date),
- Concise (To which extent information & content are compactly represented without being overwhelming),
- Understandibility (To which extent information & content are understandable by the user),
- The customisation and variety of presintation (To which extent information & content are talioed & customised to be presented in different forms (text,.doc, .pdf, ...) and according to the user needs),
- Accessibility (To which extent information & content are available, or easily and quickly retrievable),
- Completeness (To which extent information & content are not missing and is of sufficient breadth and depth)

The researchers have adapted these information qualities dimensions for the purpose of this research. See Table 5.

2.4 ICT Competences & Web Portals

The use of computers and mobile phones has increased over the years espically among the students. Oluwatobi & Yemisi (2014) regarded demographic characteristics as well as their competence in information technology as critical factors when dealing with student e-services portals. Previous research showed that the level of experience in using computers and mobile phones would influence on user effort in using web portals such as making it easy to use and easy to learn (Smith, 2001). More importantly, a high level of ICT competence will reflect on the adaptability of a web portal for the users. Several studies such as (Park & Chen, (2007); Lu & Viehland , (2008); Abu-Al-Aish & Love (2013); Callum, Jeffrey, & Kinshuk, (2014)) confirmed the relationship between the adoption of information technology, perceived ease of use and ICT competence.

One of the important factors in ICT Competence when using student web portals is the ease of learning and the ease of using the web portal. According to Dennis et al (2009) ease of learning and ease of use are important factors related to the user experience principle that should be taken into account when designing user interface. Ease of learning is significant issue for inexperienced users and relevant to systems with a large user population (in our case are the students). Ease of use is significant issue for expert users (who are professional and competent in using ICT) which is very important in specialized systems (such as student web portal). According to Dennis et al. (2009) Sometimes ease of learning and use of use go hand in hand. According to Oluwatobi & Yemisi (2014), ICT Skills and competence includes Word processing skills, Sending and receiving emails, Using a WWW search engine such as Google, Use of spreadsheet, PowerPoint design & presentation, Downloading a file from the internet. Based on what Oluwatobi & Yemisi (2014) stated, four items developed in order gain more information about jordain university students ICT competence. See Table 5.

3. Research Methodology

The major elements of this research are established based on preceding literature, either theoretically or empirically. This section provides the methodology applied in this study. The methodology includes the research

theoretical framework, procedural definitions, research hypotheses, research type and scale, research population and sample, besides data collection and analysis procedures. The reliability and validity of the study are also provided. As this research is deductive and quantitative in its nature, one of the important characteristic of deduction is the need to operationalize the variables of the study in a way that facilitate the measurement of facts quantitatively (Saunders, Lewis, & Thornh, 2009). Indeed, the variable of information quality was adapted from Wang & Strong (1996) and validated by Knight & Burn (2005); and ICT competence was identified from Oluwatobi & Yemisi (2014).

3.1 Research Theoretical Model

This study used variables that are common in e-service web portals literature. By reviewing the literature, it was noticed that there is a need to examine if there are a relationship between information quality provided by the e-service web portals and ICT student's competence due to demographic factors. Figure (1) displays the research's proposed model.

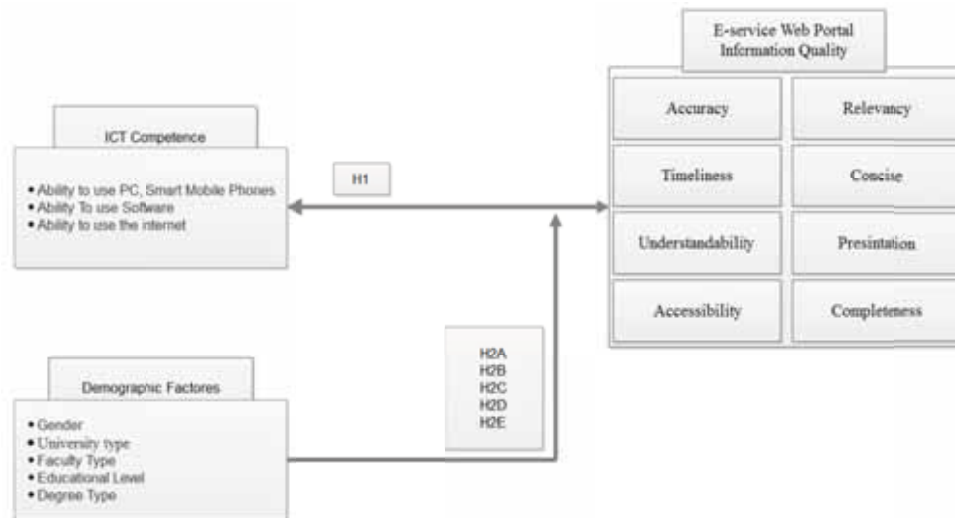


Figure 1. The Research Model

3.3 Research Hypotheses

In order to test the relationship between information quality and ICT competence; the study is hypothesized as follows:

3.3.1 The Main Research Hypotheses

H1: There is a statistically significant relationship between information quality and ICT competence in the Jordanian universities.

H2: There is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to demographic characteristics.

3.3.2 The Research Sub-Hypotheses

H2A: There is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to gender.

H2B: There is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to university type.

H2C: There is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to faculty type.

H2D: There is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to academic year level.

H2E: There is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to academic degree level.

3.4 Population and Sample

Data should be collected from the people that can provide the correct answers to solve the problem (Sekaran,

2003) and represent the whole people, events or objects the researcher want to study. Therefore, the population of this study consists of students who are currently enrolled for undergraduate and postgraduate studies and from wide range different backgrounds such as Business Information Technology, Computer Information Technology, Management Information Technology, Nursing, Management, Accounting, Law, and Education & Social Studies. Indeed, the researchers have chosen undergraduate and postgraduate students from all faculties. In addition, the current research data conducted by using a questionnaire. This technique is less expensive and consumes less time than other methods such as interviews; and covers a wider geographical area. As a result, the researchers used this method of data collection. Indeed, by using a drop and collect method to thousands of students, 428questionnaire were answered, which is adequate for statistical analysis, based on (Krejcie & Morgan, 1970), and (Pallant, 2005).

4. Data Analysis and Results

Descriptive analysis used to describe the characteristic of sample and the respondent to the questionnaires. Correlation coefficients used to determine the relationship between the items for both variables. In addition, a Pearson correlation matrix, T-test and ANOVA test employed to test the hypotheses.

4.1 Reliability and Validity

According to (Sekaran & Roger 2013), it is important to make sure that the instrument developed to measure a particular concept is accurately measuring the variable and is actually measuring the concept that it is supposed to measure in the research. Indeed, reliability analysis is related to the assessment of the degree of consistency between multiple measurements of a variable, whereas validity analysis refers to the degree to which a scale or set of measures accurately represents the construct (Hair et al., 1998). The reliability of the instrument measured by the Cronbach’s alpha coefficient. Further, some scholars (e.g. Bagozzi & Yi, 1988) suggested that the values of all indicators or dimensional scales should be above the recommended value of 0.60. However, the Cronbach’s alpha for current research variables were 0.92 and 0.87 for information quality and ICT competence respectively. Convergent validity refers to the degree to which items or measures correlated with each other to measure the same construct. Therefore, higher correlation shows that the scale is assessing its aimed construct. The closer the values are to 1 the more highly correlated the items are, and specifically the individual item reliability is recommended to be greater than 0.50 (Fornell & Larcker, 1981)(Bagozzi & Yi, 1988). Table 1 and Table 2 display the correlations between the research items.

Table 1. Correlations between the Information Quality (IQ) Items

IQ Items	IQ1	IQ2	IQ3	IQ4	IQ5	IQ6	IQ7	IQ8
IQ1	1.000							
IQ2	0.604	1.000						
IQ3	0.536	0.578	1.000					
IQ4	0.502	0.584	0.522	1.000				
IQ5	0.519	0.489	0.537	0.563	1.000			
IQ6	0.483	0.553	0.591	0.521	0.549	1.000		
IQ7	0.463	0.457	0.564	0.505	0.534	0.582	1.000	
IQ8	0.441	0.486	0.595	0.522	0.583	0.547	0.532	1.000

Table 2. Correlations between the ICT Competence (IC) Items

IC Items	IC1	IC2	IC3	IC4
IC1	1.000			
IC2	0.624	1.000		
IC3	0.532	0.621	1.000	
IC4	0.560	0.611	0.595	1.000

As shown above from both Tables 1 and 2 that most of the values were close to 0.5, which indicate a positive correlation between items. This leads to a higher level of convergent validity.

4.2 Respondents Demographic Profile

As showed in Table 3, the demographic profile of the respondents for this study revealed that they are typically males, most of them in their fourth year level in the scientific faculties, and 84.3% of them in their bachelor level.

Table 3. Respondents Demographic Profile based on the Researchers' Analysis

Category	Frequency	Percentage %
Gender	Male	52.8
	Female	47.2
	<i>Total</i>	<i>100</i>
University type	Public	53.5
	Private	46.5
	<i>Total</i>	<i>100</i>
Faculty type	Scientific	62.4
	Social Sciences	37.6
	<i>Total</i>	<i>100</i>
Educational Level	Year 1	15.9
	Year 2	17.5
	Year 3	21.5
	Year 4	36.3
	Year 5 and more	8.6
	<i>Total</i>	<i>100</i>
Degree type	Bachelor	84.3
	Master	9.1
	Doctorate	6.6
	<i>Total</i>	<i>100</i>

4.3 Descriptive Analysis

In order to describe the responses and thus the attitude of the respondents toward each question they asked in the survey, the mean and the standard deviation estimated. While the mean shows the central tendency of the data, the standard deviation measures the dispersion which offers an index of the spread or variability in the data (Sekaran, 2003) & (Sekaran & Roger, 2013). In other words, a small standard deviation for a set of values reveals that these values clustered closely about the mean or located close to it; a large standard deviation indicates the opposite. Table 4 shows the overall mean and standard deviation of the research variables.

Table 4. Mean and Standard Deviation of the Study's Variables

Variables	Mean	Std. Deviation
Information Quality	3.3952	0.96058
ICT Competence	4.1793	0.94156

As presented in Table 4, data analysis results have shown that information quality among students applied moderately at the Jordanian universities in which the mean score is 3.3952. This is an indicator on the importance of the information quality toward the student e-service web portals of the Jordanian universities and the essential role that they could play in using the students' e-service web portal. Furthermore, data analysis results have revealed that ICT competence is applied to a great extent in which the mean score is 4.1793. This high level of presentation denotes a positive attitude regarding students' access devices. This sturdily advocates that Jordanian universities are currently engaging in information technology and mobile application activities with their students.

4.3.1 Research Variables

Table 5 demonstrates the mean scores for information quality and ICT competence:

Table 5. Mean and Standard Deviation for the Research Variables

Information Quality	Mean	Std. Dev.
Student E-service Portal at my university provides accurate information & content regarding my academic status	3.46	1.182
Student E-service Portal at my university provides relevant information & content about my academic status	3.41	1.212

Student E-service Portal at my university provides up-to-date information & content regarding my academic status	3.28	1.245
Student E-service Portal at my university provides me the right level of detail of information & content regarding my academic status	3.48	1.192
Student E-service Portal at my university provides me with understandable information & content (I can understand easily different types of information about my status such as academic, financial,...etc)	3.35	1.212
I can view my academic information and content using Student E-service Portal at my university in different ways (presenting information and content in an appropriate format)	3.48	1.144
Student E-service Portal at my university provides a complete information & content regarding my academic status	3.25	1.230
Student E-service Portal at my university provides me with accessibility to my information & content regarding my academic status	3.45	1.222
ICT Competence	Mean	Std. Dev.
I can Browse the Internet, websites using my PC, Laptop, Smart phone or Tablet	4.24	1.141
I can use search engines like Google, Bing and Yahoo	4.34	1.016
I can Use my PC and/or Laptop to perform simple tasks like (Copy, Cut and paste, use word processing, spreadsheets, PowerPoint, Download & upload files)	4.23	1.061
I can Use my Smart phone and/or Tablet to perform simple tasks like (Copy, Cut and paste, use word processing, spreadsheets, PowerPoint, Download & upload files)	3.90	1.232

4.4 Hypothesis Testing Results

4.4.1 Hypothesis 1

H1: There is a statistically significant relationship between information quality and ICT competence in the Jordanian universities.

The purpose of this study was to investigate the relationship between information quality and ICT competence in the Jordanian universities. Thus, a Pearson correlation matrix was conducted, Table 6, and showed a positive relationship (p= 0.489) between information quality and ICT competence.

Table 6. A Pearson Correlation between Information Quality (IQ) and ICT Competence (IC)

Variables		IQ	IC
IQ	Pearson Correlation	1	0.489**
	Sig. (2-tailed)		0.000
	N	428	428
IC	Pearson Correlation	0.489**	1
	Sig. (2-tailed)	0.000	
	N	428	428

4.4.2 Hypothesis 2

Hypotheses H2A, H2B, H2C, H2D, and H2E argued that there is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to gender, university type, faculty type, academic year level, and academic degree level respectively. Independent Samples T-test was employed in order to investigate if there any significant differences in the relationship between information quality and ICT competence that can be attributed to gender, university type, and faculty type. Also, ANOVA test was employed to examine if there any significant differences in relationship between information quality and ICT competence that can be attributed to academic year level, and academic degree level.

Results of T-test, shown in Tables 7 and 9, indicated that there is no significant difference in the relationship between information quality and ICT competence in the Jordanian universities that can be attributed to gender and faculty type respectively; while the results as indicated in Table 8 found a significant difference in the relationship between information quality and ICT competence due to university type. In addition, results of ANOVA test, shown in Table 10 and Table 11, indicated that there is no significant difference in the relationship between information quality and ICT competence in the Jordanian universities in favor of academic year level, and academic degree level.

Table 7. T-test of the Difference in the Relationship between Information Quality and ICT Competence in the Jordanian Universities Due to Gender

Variables	Male			Female			T	df	Sig.
	N	Mean	Std. Dev.	N	Mean	Std. Dev.			
IQ & ICT Competence	226	3.3955	1.00543	202	3.3948	0.91027	0.007	425.927	0.994

Table 8. T-test of the Difference in the Relationship between Information Quality and ICT Competence in the Jordanian Universities Due to University Type

Variables	Public University			Private University			T	df	Sig.
	N	Mean	Std. Dev.	N	Mean	Std. Dev.			
IQ & ICT Competence	229	3.1796	0.91723	199	3.6432	0.95159	5.112	412.996	0.000

Table 9. T-test of the Difference in the Relationship between Information Quality and ICT Competence in the Jordanian Universities Due to Faculty Type

Variables	Scientific Faculty			Social Science Faculty			T	df	Sig.
	N	Mean	Std. Dev.	N	Mean	Std. Dev.			
IQ & ICT Competence	267	3.4490	0.96138	161	3.3059	0.95555	1.497	338.970	0.135

Table 10. ANOVA Analysis of the Difference in the Relationship between Information Quality and ICT Competence in the Jordanian Universities due to Academic Year Level

Variables		Sum of Squares	Df	Mean Square	F	Sig.
IQ & ICT Competence	Between Groups	4.593	4	1.148	1.247	0.290
	Within Groups	389.405	423	0.921		
	Total	393.998	427			

Table 11. ANOVA Analysis of the Difference in the Relationship between Information Quality and ICT Competence in the Jordanian Universities due to Academic Degree Level

Variables		Sum of Squares	Df	Mean Square	F	Sig.
IQ & ICT Competence	Between Groups	3.929	2	1.964	2.140	0.119
	Within Groups	390.069	425	0.918		
	Total	393.998	427			

5. Discussion and Conclusions

The primary motivation of this research is to examine the relationship between e-services Web portals information quality and ICT competence in the Jordanian Universities. The population of this study consists of under and postgraduates' students from scientific and social sciences faculties of public and private universities located in Jordan. After analyzing the respondents' demographic profile, it revealed that they are typically males, most of them in their fourth year level in the scientific faculties, and 84.3% of them in their bachelor level.

The proposed model has two main hypotheses (H1 and H2). The first hypothesis claims that there is a statistically significant relationship between information quality and ICT competence in the Jordanian universities. On the other hand, the second hypothesis with its sub hypotheses (H2A,H2B,H2C,H2D, and H2E) states that there is a significant difference in the relationship between information quality and ICT competence in the Jordanian universities due to demographic characteristics (moderate variables: gender, university type, faculty type, academic year level, and academic degree level). Before testing the proposed hypotheses, it was important to measure the consistency between the measured variables and how accurately they represent the proposed construct. For this purpose, the reliability and the convergent validity for both variables (e-services Web portals information quality and ICT competence) were approved. Cronbach's alpha coefficient and the correlation between the variables showed satisfactory results.

In order to test the hypotheses, a Pearson correlation matrix, T-test and ANOVA, were used. The main hypothesis H1 was analyzed. The result shown in table6indicated that there was a positive relationship (p= 0.489) and

change in the same direction between information quality and ICT competence. Hypotheses H2A, H2B, H2C, H2D, and H2E stated that there were significant differences in the relationship between information quality and ICT competence in the Jordanian universities due to gender, university type, faculty type, academic year level, and academic degree level, respectively. By using T-test analysis, shown in Tables 7 and 9, the current research found that there is no significant difference in the relationship between information quality and ICT competence in the Jordanian universities that can be due to gender and faculty type; whilst the results as indicated in Table 8 found a significant difference in the relationship between information quality and ICT competence in favor of university type. Also, results of ANOVA test, shown in Table 10 and Table 11, found that there is no significant difference in the relationship between information quality and ICT competence in the Jordanian universities attributed to academic year level, and academic degree level respectively.

Table 8 found a significant difference in the relationship between information quality and ICT competence in favor of the private universities due to higher mean (3.6432) compared to the public universities mean (3.1796). This is due to the fact that the Ministry of higher education and the accreditation and quality assurance commission for higher education institutions in Jordan draw more attention on the services and programs provided by the private universities in Jordan. Moreover, this proves the real intentions of the Private universities in competing with public universities in terms of providing better information quality on their web portals compared to the public universities in Jordan. The researchers reviewed the private and public universities compulsory courses and found that private universities put more focus on the ICT skill promoting among their students compared to the public universities in Jordan.

However, there are some limitations of the study. The researchers would like to note that this research is limited to the Jordanian context. Thus, this raises inquiries regarding the generalizability to other cultures and different contexts. Consequently, further research is needed with regards to several countries since this would help to advance understanding of the e-services Web portals information quality and ICT competence issues and the conditions and outcomes of achieving it from different nationwide origins in different contexts. Moreover, the responded sample size of this study is believed to be very small compared to the real number of under and postgraduate students in Jordanian universities as the total enrolled numbers in the academic year 2014-2015 were (195688) students for the public and (71008) students for the private universities making the total of (267489) students. According to Aguinis et al (2014), it is difficult to find significant relationships from the data. This is to say that although the response rate of this study was sufficient for the condition of statistical analysis, the percentage of those who did not respond was still observable. In other words, even though the research results could be representative, it is reasonable to be watchful in its generalization. Consequently, to increase statistical validity, then further research should consider higher response rates. Another limitation is that the proposed conceptual model is based on the cross-sectional data from Jordanian universities. Therefore, longitudinal investigations are preferred for better implications. Also, although this paper investigated several hypotheses and offered empirical support for the acceptance and refusal of some of these hypotheses; more generalizations on the application of the theoretical premises that developed in building the research model will be needed. This is to say that a more generalized research model that compensates the current research limitations by adding further impacting variables to the model and obtain a more representative sample from different sectors will be required. Finally, other factors that may affect the level of e-services can be assessed in future research.

To sum up, this research serves as a good start to study other factors such as web portal design; this will highlight the User Experience (UX) and Usability of the used e-services web portals at the Jordanian universities moreover, this will highlight the needs and user experience for the disabled users such as the deaf and the blind (Khwaldah & Shah, 2010). This includes studying and evaluating web portal appearance, aesthetics, the consistency in web portal design, the security and privacy issues, portability and satisfaction. Moreover, this study will come in use when conducting a heuristic evaluation and comparison between Jordanian universities e-services web portals for student and staff. This comparison includes educational services for student and academics. Moreover, this could be used in terms of comparing services to the staff at these universities. Finally, the research model in this study could be used to conduct similar research on e-services web portals information quality and ICT competence in the Jordanian universities from the staff perspective. Such research will complement this research and will give a clear idea about the status of e-services web portals information quality for the staff as well as current idea about the ICT competences among Jordanian universities staff.

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Is Islamic Banking and Finance Doing Enough? Shaping the Sustainable and Socially Responsible Investment Community

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Abstract

Islamic finance assets advanced at double-digit rates during the past decade, from about US\$200 billion in 2003 to an estimated US\$1.8 trillion at the end of 2013 (Ernst & Young 2014; IFSB 2014; Wyman 2009). Hence, despite this growth, Islamic finance and its related products are still focused in the Gulf Cooperation Council (GCC) countries, and Malaysia, and represent less than 1 percent of global financial assets. While, Islamic banking and finance sector, should responsive to small medium enterprises mitigating liability of smallness and newness. The factors mitigating the inherent liabilities associated with new entrepreneurial startups were found to be institutional support. Institutional support was also found to be an important factor of success for new startups. The primary focus of this study is to examine the critical role of Islamic Banking and Finance, expanding and facilitating entrepreneurial opportunities. This study draws on triple bottom line concept (people, planet and profit), by developing standards equivalent to triple bottom line reporting for Islamic banking and financial institutions, and disseminating independent and objective research to relevant stakeholders. This includes examining the potential positive or negative social impact of Islamic Banking and Finance on the financially sustainable and responsible community.

Keywords: Islamic banking and finance, sustainable, responsible environment, triple bottom line

1. Introduction

Consistently, the Islamic banking concept has gained popularity worldwide attributing to the major opportunities it offers, such as the diversification of the investor base and its ability to lure and increase a country's investment (Osman 2012; Ahmad, 2008). This is visible from the significantly high compound annual growth rate recorded in the Islamic banking industry during the years of the global economic adversity between 2006 and 2009 (Reuters, 2010). The Islamic banking and finance sector can influence the future direction of the economy, and as such, may act as a motivator towards realising a prosperous future and sustainable development. Socially responsible investment in sectors such as renewable energy, or in environmentally/ socially sound endeavours, can make a more meaningful contribution to the economy than perhaps more traditional ventures (Setchell, 2015). Responsible investments are likely to bring a greater return to investors. Alertness among consumers about the role of sustainability is increasing, and social and environmental arguments are affecting decision-making. Nevertheless, 'green' businesses are more competitive and are likely to achieve greater financial results while simultaneously addressing the triple bottom line.

From the Middle East perspective, the potential in sustainable business and socially responsible investing is great. One of the principles of Islamic banking is to not invest in projects that are detrimental to society, which exhibits the extent to which Islamic finance contributes to a broader values-based social system. The Islamic principles that lead Islamic finance include the concept of humankind as trustees of nature. This instils a level of responsibility to safeguard society and environment, and demonstrates the potential for the region to seek these principles even further in a business situation. Taking these distinctions into account is the Islamic Reporting Initiative (IRI), which delves to promote the use of triple bottom line reporting as an instrument for business development and growth, in a context that is regulated with Islamic principles. Additionally, the favourable geography of the region prepares it with great renewable energy resources, such as solar power. This may serve as a major competitive advantage in the field of sustainable development, with consumers increasingly scrutinizing the social and environmental impact of organizations.

2. Methodology

The primary objective of this study is to investigate the critical role of Islamic Banking and Finance, expanding and facilitating entrepreneurial opportunities. This study draws on triple bottom line concept (people, planet and profit), by establishing standards equivalent to triple bottom line reporting for Islamic banking and financial institutions, and disseminating independent and objective research to relevant stakeholders. This includes examining the potential positive or negative social impact of Islamic Banking and Finance on the financially sustainable and responsible community. This paper proposes for new business framework that promotes ethical leadership, employee well being, sustainable and socially responsibility community without sacrificing profitability, revenue growth, and other financial and performance indicators. This means shaping business frameworks integrating Islamic Finance and Banking sector on approaches that have a positive economic, social, and environmental impact, often referred to as the triple bottom line. The triple bottom line – or “People, Planet, Profit” (TBL) – encloses a definite set of moral values and criteria for measuring organizational (and societal) success and with it a need to institute triple bottom line assessment and reporting (Fry & Slocum Jr, 2008). TBL is coined by John Elkington of “SustainAbility” (UK) in 1995. TBL is one of the main systems being used by businesses to examine the profits they are making through their corporate sustainability solutions. The Triple Bottom Line approach observes how one see beyond the traditional bottom line of business to the profits that one generates socially, environmentally, and economically.

Notwithstanding many similarities, the nature of the human and financial resources for social entrepreneurship contradicts in some key respects, primarily because of difficulties in resource mobilization (Austin, Stevenson, & Wei-Skillern, 2006). Contrary, a commercial entrepreneur who often has the financial resources or incentives to recruit and retain talent, social entrepreneurs is rarely able to pay market rates for key hires (Oster, 1995). Small medium enterprises may be considered non-bankable and unqualified for formal loan because they lack of collateral to back their loan applications. This demonstrates the liability of smallness and newness of the enterprises in enacting new business opportunities. Yunus & Jolis (2003) stated that the poor are not lack of talents thus should be given opportunity in terms of capital to be independent entrepreneurs. Hence, it is the right time for Islamic banking and finance sector is to offer sustainable micro-financing services or products to such communities. Microfinance is a supply of relatively small loans, savings and other basic financial services to the poor has made an impact in the lives of many over the years across the globe (Rahman, 2007). MFIs have developed from a humble beginning of village banks or cooperatives in Egypt in 1960s to a very structured institutions like Grameen Bank in Bangladesh, BancoSol in Bolivia, Unit Desa Bank Rakyat Indonesia and ACCION International in the United States and Latin America (Dusuki, 2008) and the opportunity for Islamic Banking and Finance sector is still wide and open. Furthermore, with the repayment rate of more than 90% the microfinance sector has been proven to be low risk and profitable business (Hassan et al, 2012).

Table 1. Triple Bottom Line (TBL) Framework in Socially Responsible Investment Community

Sustainable Issues	Broad Considerations
People Social Sustainability	Social equity and cohesion – shaping the well beings of individual and the community to increase institutional-individual relationship (Islamic banking and finance sector and community)
Planet Environmental Sustainability	Responsible and sustainable community in natural resources exploitation
Profit Financial Sustainability and Sustenance (<i>Barokah</i>)	Sharing liability and risk New and innovative services and products Spiritual Sustenance

The establishment of Grameen Bank by Prof. Muhammad Yunus, and known as bank for the poor is considered a replicable financing model to small medium enterprises that demonstrates lack of critical funding opportunities. The abstractly new and not well established small medium enterprises are presumably being considered as ‘non-bankable’ and not credit worthy due to the absent of physical assets; hence granting credits to them is ‘very risky’ (Hassan et al., 2012). As a result, most microfinance providers are dominated by NGOs (Brugnani, 2010). Yunus (2003) has proven that the group lending system as per Grameen Bank model overcome this predicament and the poor are given the chance to provide ‘social collateral’ instead. Hence, Islamic Banking and Finance should be more innovative and socially responsible by offering ‘social collateral’ to the entrepreneurship community. Though, the risk is inevitable, the Islamic banking and finance sector may mitigate the risk through the peer monitoring, joint liability and eventually has effectively increase repayment rate, decrease adverse selection and significantly reducing cost (Brau & Woller, 2004). In framing the theoretical foundation of this study, TBL

evolves from two dimensions of the sustainable issues and broad considerations. This is summarized using the Table 1.

3. Discussion

3.1 *The Context of People*

The application of triple bottom line (TBL) to enable socially sustainable entrepreneurship community is significant in the sense that it drives broader consideration of people, planet and profit in the context of Islamic banking and finance sector. A triple bottom line institution takes steps to ensure that its operations aid the company's employees as well as the community in which it conducts business. In a TBL context, the development of human capital is shaped by social equity hence the well being of individual and the community (local or global) increases institutional-individual relationship. Islamic banking and finance managers of TBL entities are concerned, not just with providing adequate compensation and rewards to its workers, but strengthening the role of institutional-individual relationships by creating innovative, accessible and community friendly services and products to the community. The value and meaning for Islamic banking and finance is not only to seek positive ways to contribute to the community through activities, such as charitable contributions, education programs and equal opportunity employment yet incorporating this sector as one of the effort to enable the community.

To further understand the context of this discussion, this paper connects the case of Amanah Ikhtiar Malaysia (AIM). AIM is one of the microfinance institutions (MFI) in Malaysia. This institution has been operating for more than 20 years extending credits and micro insurance to the micro entrepreneurs. AIM relies on grants and loans from different local and international institutions (Ismail, 2001). This institution offers no interest charges and flexible against defaulters. This is in line with the teaching of the Holy Quran; *'If the debtor is in difficulty, grant him time till it is easy for him to repay. But if you remit it by the way of charity, that is best for you if you only knew.'* (Note 1) On top of entrepreneurial support of micro credit, AIM offers training, business networking and matching activities. These efforts transform micro entrepreneurs ability to become economically sustainable. Since 31st January 2012, AIM products and services benefitted almost 297,790 participants with more than MYR 6 billion allocated to the community, with the repayment rate of 99.6% (AIM, 2008). Apart from the financial impact on microfinance on the participants, Morduch in Saad and Duasa (2010) said that there is also a social dimension involved in the programme. There are views that governments may not be able to provide full public interests and are not capable of achieving developmental goals.

Hence, the key notion is to motivate commercial sector capacity in production of goods and services that in effect elicited the advancement of the economic development in the developed countries and fields of economic prosperity, employment and stable relative welfare of citizens (Salarzahi, Armesh & Nikbin, 2010). This in return supports the social dimension and the improvement in community's health status, the children's education and increasing the overall life quality of the community. This is proven in the impact study conducted by AIM in 2005 and reported that 90% of the participants have successfully exit poverty after 4 borrowings and 74.9% (AIM, 2008). This signifies the critical role of Islamic banking and finance in offering more and innovative solutions to the entrepreneurship and the community.

The reports on Islamic Banking Opportunities Across Small and Medium Enterprises by International Financial Corporation, World Bank, which includes countries namely Iraq, Pakistan, Yemen, Kingdom of Saudi Arabia, Egypt, Lebanon, Morocco, Tunisia, and Jordan, reiterates several reasons for the lack of access to finance for small medium enterprises (SMEs) in these countries. The study demonstrates that, there is a potential gap of USD\$8.63 billion to USD\$13.20 billion for Islamic SME financing within un-served and underserved SMEs categories, with a reciprocal deposit potential of \$9.71 billion to \$15.05 billion across these countries. This is by reason of un-served and underserved SMEs ignoring the conventional banks, only owing to religious reasons. This potential is a "new to bank" funding opportunity, which is still unexplored, as banks and other financial institutions lack of sufficient strategic focus on this segment to offer Shariah-compliant products. This is the strategic role of Islamic Banking and Finance and to increase visibility in 'still untapped' markets. Islamic financial institutions have offered several financial instruments and products that comply with the *Shariah* and through such instruments, Islamic banking and financial institutions could also serve as the financial inter-mediation to SMEs, they also need to advance the human resources (confidence, skills, knowledge and information) among the clients at the same time to build local structures that help SMEs to grow progressively (Abdullah & Hoetoro, 2011).

3.2 *Building Sustainable Environmental Life*

A TBL company evades any activities that harm the environment and looks for ways to lessen any negative

impact its operations may have on the ecosystem. It manages its energy consumption and takes steps to reduce its carbon emissions. Many TBL companies go beyond these basic measures by utilising other means of sustainable development, such as using wind power. Many of these practices actually increase a company's profitability while contributing to the health of our planet. In Islam, human and environment interaction is led by the notion of the person as a vicegerent or steward of the earth (Jusoff & Abu Samah, 2011). As vicegerents of Allah in earth, Muslims are accountable to Him to protect and preserve what He has entrusted them with (*amanah*) (Farook, 2007). Farook further posits that destruction of or adversity to the physical environment, if it is considered harmful to the interests of the individual or the society at large, is prohibited in Islam. An Islamic way of a sustainable environmental life entails living in "peace and harmony (*salam*)" at individual, social as well as ecological levels (Jusoff & Abu Samah, 2011). It is essential for every individual to ensure that their actions have minimal environmental impacts. While Islamic Banking and Finance sector itself does not have direct environmental consequences, projects supported by this sector may have significant environmental impacts. Hence, actors within this sector should be responsible to ensure that such harmful investments are avoided and actively promotes, opportunities that is sustainable and responsible to the environment and community.

Farook (2007) suggests the social impact based investment notion. This according to Farook, due to the special financial strengths (because of their diversification capabilities and economies of scale), they are able to devote in industries that produce social, cultural or religious development in line with Islamic ideals. This is much relevant to be implemented by Islamic Banking and Finance institutions in countries such as Saudi Arabia, UAE, Qatar and Malaysia. Hypothetically, opportunities in socially, culturally and religiously driven areas, could be identified as social impact based investments hence may employ social entrepreneurship as an instrument to enable the SMEs. Therefore, relevant Islamic institutions (such as Islamic banks, Islamic microfinance institutions, and / or Business Development Services) should provide a vast space of accessibility to SME owners and their resources to ensure capacity for exchange in line with Islamic criterion of mutual interdependence among related agents (Abdullah & Hoetoro, 2011). It will be truly challenging to incorporate social entrepreneurship within Islamic Banking and Finance as this sector is mostly driven by profit. Balancing profit with social motives will never be easy as business are more motivated towards achieving financial returns and making shareholders happy. To ensure shareholders to be happy nevertheless, banking and financial institutions including Islamic banking and finance sector, tries to push profit as their main business agenda.

3.3 *The Role of Social Entrepreneurship*

Discovering and creating business opportunities for new venture creation are paramount in shaping entrepreneurial actions and the intent to develop potential business opportunities (Ahamat & Chong, 2014). The role of social entrepreneurship in the context of Islamic banking and finance is mainly caused by its essential signals to drive social change. Harding (2006) suggests that the significant role of social entrepreneurship is that it contributes to an economy by providing a substitute business model for enterprises to trade commercially in an environmentally and socially sustainable way, and it also provides an alternative delivery system for public services. Rolland (2006) posited that the uniqueness of this company is that they view the primary purpose of the company in creating jobs and value to the communities, and not to shareholders' profitability.

Here, the motives will be driven both namely financial returns and social returns. Abdullah & Hoetoro (2011), posit that profitability is still an objective, but it is not the only goal, and profits are re-invested in the mission (*da'wah* or Islamic propagation) rather than simply being distributed to shareholders as determined in the Holy *Qur'an Surah al-Hashr: 7*, saying that: "What Allah has bestowed on His Apostle (and taken away) from the people of the townships –belongs to Allah– to His Apostle and to kindred and orphans, the needy and the wayfarer; in order that it may not (merely) make a circuit between the wealthy among you.....". Nevertheless, the incorporation of social entrepreneurship to enable the socially responsible investment community is much supported to build sustainable and responsible investment community.

3.4 *The Concept of Barakah (Spiritual Sustenance)*

Previously, profitability was considered the only important factor in an opportunity seeking behaviour, yet businesses today have had to expand their thinking in this regard. In Islam, there is no separation between entrepreneurial activities and religion. Islam has its own entrepreneurship characteristic and guiding principles based on al-Quran and al-Hadith to guide entrepreneurship operation (Oukil, 2013). By morality of the human nature, the person must firstly be a Muslim, then the entrepreneur hence he has the responsibility to perform ibadah and be a khalifah (Faizal, Ridhwan and Kalsom, 2013). Muslim entrepreneur should search for Allah's blessings above all other factors. Muslim entrepreneurs perform entrepreneurial activities not solely for profit,

but above all, to fulfil the *fardu kifayah* Vargas-Hernández, Noruzi, and Sariolghalam, 2010).

The paper posited that belief system that is embedded and practiced (such as religion) is a vital element of an individual in their journey of opportunity creation. Hence, there are massive challenges and difficulties for entrepreneurs in organizing their limited resources to achieve their business aims. Research demonstrates that socio-economic crises result in more people inclining to religion and spirituality (Smith & Danton, 2005). The paper suggests that the unique systems of meaning, action, or beliefs emerging from the human processing deeply rooted in the Islamic concept of *tasawwur* (conception), which advocates the concept of spiritual sustenance. Islamic *tasawwur* demonstrates entrepreneurship as one of the best forms of livelihood or occupation (Sa'ari & Abdul Hamid, 2011). Al-Quran manifests this encouragement towards Muslims clearly through a summons like “*seek, using all resources available on earth and open up opportunities for the same cause*” (Note 2). Yusuf al-Qaradawi (2001) indicates that the philosophy of Islamic entrepreneurship (adding the emphasis of spiritual sustenance) is driven on economic philosophy itself, where businesses or trades are based on *Rabbani* (divine) and divinity traits. Al-Quran itself asserts the spirit and principles of freedom, justice, and morality in every mode of entrepreneurial activity.

The principles, conditions, and guidelines that have been set aim to ensure the survival of the business (Ahmad, 1995) and to achieve *barakah* (blessings) from Allah the Almighty. This is written in the holy book of Al-Quran: “Worship is done by people of strong faith who are not distracted by business or trade from quoting and remembrance of Allah; establish regular prayers and practice regular charity; they fear the hereafter.” (Surah An-Nur: 37). The idea of business as *Ibadah* or worship emulates a guiding principle of the social belief system ingrained in the opportunity creation process. While, for the Muslim entrepreneurs, opportunities are interpreted as *rezeki* (sustenance), yet sustenance is a responsibility more than a reward. Muslims consider that trustworthy and good deeds will result in *barakah* from Allah. This may result in ease in daily activities, a happy life and a lot of blessings in this life and the hereafter. *Barakah* or blessing is one important element that establishes the view of spiritual sustenance.

Barakah is the Arabic word which demonstrates grace; in particular, it is a spiritual gift or for protection from God Almighty, Allah. In Christian religion there is a word *berakhah*, which explains appeal or excellence award from the Lord. Incidentally, the word *Baraka* used in the French language is identical with the word luck (fate). Hence, *barakah* advances the feeling or a sense of self-efficacy, a belief in dealing with businesses or commercial transactions. This is interpreted in the book of the Holy Quran where the word *barakah* is among the blessings that Allah says in Surah Al-A'raf verse 96, which means, “If the State of the people believe and fear surely we will bestow on them blessings from heaven and the earth.” In the context of Islamic Banking and Finance, it is imperative that the actors in this sector to filter their investments for compliance with Islamic laws and principles develop a clear policy outlining their method of filtering investments and the depth of their filtering or screening (Farook, 2007).

4. Conclusion

To answer the key question in this study, is Islamic Banking and Finance doing enough, this paper suggests more innovative efforts to integrate TBL in shaping sustainable and responsible investment. The proposed triple bottom line framework helps unleash the critical people, planet and profit in building more sustainable and responsible investment community. The role of Islamic Banking and Finance institutions are eminent. Taking this notion into account is the Islamic Reporting Initiative IRI, which seeks to promote the use of triple bottom line reporting as a mechanism for business development and growth, in a context that is aligned with Islamic values and principles.

However, one main issue with the triple bottom line is that the three separate contexts cannot easily be integrated. It is challenging to examine the planet and people accounts in the same terms as profits—that is, in monetary terms. The full cost of an open burning in several countries leading to haze and schools closures, for example, is probably immeasurable in monetary terms, as is the opportunity cost of absences of children and teachers from schools, or the health cost of the communities in far remote areas without adequate health facilities. Like most subjective communication efforts or intangible benefits, your socially and responsibly driven activities can be difficult to measure. However, the Islamic Reporting Initiative (IRI) is essential to enable businesses to report and measure their social impact.

Future empirical study is useful to draw better conclusions on this interesting study. Hence, applying employing interpretive inquiry approach to the research subject could operationalize this. While, interpretive analysis aims to shape how people experience the world, the ways they interact together and the settings in which these interactions take place. This includes the interpretation of meaningful human expressions such as written, verbal

and/or physical (Ahamat & Chong, 2015). Two key notions involved, namely human activity and social life. Smith (1992) contends that human actions are those assertions people make based on reasons, intentions and motivations while the idea of social must be added because the meanings attributed to human actions, both by the actors and the interpreters are determined by and can only be understood within a social meaning in this context all the stakeholders involved in Islamic Banking and Finance.

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Notes

Note 1. Surah Al Baqarah (The Heifer) verse 280.

Note 2. In Surah al-Ja'siah (45): 12-13, al-Hijr (15): 19-22, al-An'am (6): 141, al-Najm (53): 39, al-Nur (24): 37, al-Jumu'ah (62): 9 dan al-Tawbah (9): 24.

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Measuring Customer Based Brand Equity: A Case of Heineken from the Beer Market in Vietnam

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Abstract

This study aims at examining the practicality of a customer-based brand equity model with a case of Heineken in the Vietnamese beer market. Based on a sample of 322 consumers by using a structured questionnaire, structural equation modeling (SEM) is applied to test hypotheses. The result reveals that perceived quality, brand awareness, brand association and brand loyalty have positive and direct effects on overall brand equity. These findings have implications for marketers.

Keywords: brand equity, Heineken, beer market, Vietnam

1. Introduction

In recent years, with a young population structure and increasing middle class as well as the beer drinking habits of Vietnamese people, Vietnam has become a nation which has the highest beer consumption in Southeast Asia, ranking third in Asia after Japan, China and being in the top 25 of the world (Phuong, 2016). As reported by the Association of Beer - Alcohol - Beverage Vietnam (VBA), Vietnam beer market has consumed about 3.4 billion liters of beer in 2015 (increased by 10% and 41% compared to those in 2014 and 2010 respectively), and this figure will be approximately 4.4 billion liters in 2016 (Nhung, 2016). However, according to many forecasts, the Vietnamese beer market will be in saturation next years and will stabilize at around 5 billion liters per year (Huong, 2016). Moreover, the competition between brands in Vietnam beer market is forecasted to be increasingly fierce. At present, apart from domestic brands, almost the internationally renowned beer brands have had increasingly strong penetration into Vietnam market such as Tiger Beer, Biere Larue, Heineken, Sapporo, Budweiser, Carlsberg, etc. Among these brands, Heineken, with the reputation of product quality, the massive covering of distribution system, the impression of communication messages and especially with the renowned brand has always been loved and has occupied a critical position in Vietnamese consumers' mind. Therefore, a brand, especially how components of brand equity of Heineken in the Vietnam beer market, has affected the buying of Vietnamese consumers, and then contributed to making Vietnam market the third largest market of Heineken, only following Mexico and Nigeria. This is what the research sets out to study.

2. Literature Review

2.1 Brand Equity and Brand Equity Dimensions

Both practitioners and academics regard brand equity as an important concept of marketing (Buil et al., 2013a). Although brand equity has been discussed from a variety of views by different researchers, it can be classified into two main perspectives: financial and customer perspectives (Keller, 1993; Chaudhuri, 1995; Chang et al., 2008). From the financial perspective, brand equity can be viewed as the financial asset value created for the business by brands (Lassar et al., 1995; Chang & Liu, 2009); as the total value of the brand that is a separable asset when it is sold or included in a balance sheet (Feldwick, 1996). This perspective aims at estimating the value of the brand more precisely for accounting purposes or for merger, acquisitions or divestiture purposes (Mohan & Sequeira, 2012). From a customer's perspective (customer-based brand equity), brand equity is defined as "as a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers" (Aaker, 1991); "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993, p. 2); "the difference in consumer choice between the focal branded product and an unbranded product given the same

level of product features” (Yoo et al., 2000, p. 196). Customer’s perspective focuses on customer’s mindset. Between two main perspectives as mentioned, most studies tackled brand equity from the customer view. If a brand has no value for the customer, financial value would be zero because it does not really exist in the market place (Mostafa, 2015). Therefore, this study focuses on the customer-based brand equity.

Regarding brand equity dimensions, there are numerous different models in the literature to explain the formation of brand equity. Aaker (1991) explained brand equity measurement into four main dimensions: brand awareness, brand associations, perceived quality, and brand loyalty. Keller (1993) focused on brand awareness (recall and recognition) and brand image (a combination of favorability, strength, and uniqueness of brand associations) as two main components. Lassar et al. (1995) separated it into five components, including performance, social image, value, trustworthiness, and attachment. Berry (2000) grouped it into two classes: brand awareness and brand meaning. Similarly, later other researchers also have presented their dimensions of brand equity. However, these dimensions are quite similar and less or more inherited to one that was proposed by Aaker (1991). Moreover, many empirical researches on the dimensions of brand equity (e.g. Yoo et al., 2000; Pappu et al., 2005; Tong & Hawley, 2009; Jalilvand et al., 2011; Buil et al., 2013b; Ahmad & Sherwani, 2015) are all derived or adapted from Aaker (1991) model where brand equity can be measured by four constructs as mentioned. Aaker's model is one of the most cited and applied in several previous research papers (Tong & Hawley, 2009). Therefore, dimensional model constructed by Aaker (1991) will be chosen in this study.

2.2 The Relationships between Brand Equity and Its Dimensions

2.2.1 Effect of Perceived Quality on Brand Equity

Perceived quality is defined as “customer’s perception of the overall quality or superiority of a product or service with respect to its intended purpose relative to alternatives” (Aaker, 1991, p. 85). Therefore, perceived quality is a quality coming from a perception of consumer. It is not the actual quality of the product that is based on product or manufacturing orientation (Garvin, 1983). According to Farquhar (1989), brand equity will depend on perceived quality since it is necessary to develop a positive assessment of the brand in customers’ memories. Hence, perceived quality is a key dimension of brand equity. Perceived quality brings value to a brand in several ways: high perceived quality would influence consumer’s choice, could support a premium price, and might lead to greater differentiation and superiority of the brand which can create a greater profit margin and lead to an increase in brand equity (Yoo et al., 2000). The effect of perceived quality on brand equity was confirmed by many results from previous studies (e.g. Yoo et al., 2000; Buil et al., 2013b; Saydan, 2013; Ahmad & Sherwani, 2015; Azadi et al., 2015). Hence, the following hypothesis of the relationship between perceived quality and brand equity is proposed:

H1: Perceived quality has a significant positive direct effect on brand equity.

2.2.2 Effect of Brand Awareness on Brand Equity

Brand awareness is defined as “the ability of the potential buyer to recognize and recall that a brand is a member of a certain product category” (Aaker, 1991, p. 61). It is considered to be an important construct of brand equity. Brand awareness may take two forms: recall and recognition (Rossiter & Percy, 1997). Brands recall means when consumers see a product category, they can recall a brand name correctly, while brand recognition implies consumers have the ability to recognize a brand when they get some cues (Chi et al., 2009). Brand awareness is believed to contain the meanings of the brand. It is the first step to creating brand equity, and brand equity occurs when the consumer has a high level of awareness and familiarity with the brand (Jalilvand et al., 2011). Moreover, brand awareness can be a sign of quality and commitment, and help customers consider the brand at purchase situations (Aaker, 1991). Furthermore, a product with a high level of brand awareness can receive higher consumer preferences (Chi et al., 2009). In addition, many empirical evidences from researches (e.g. Taleghani & Almasi, 2011; Mohan & Sequeira, 2012; Ahmad & Sherwani, 2015; Mostafa, 2015) supported the positive relationships between brand awareness and brand equity. Thus, the following hypothesis is formulated:

H2: Brand awareness has a significant positive direct effect on brand equity.

2.2.3 Effect of Brand Association on Brand Equity

Brand association is defined as “anything linked in memory to a brand” (Aaker, 1991, p. 109). A brand association is the most accepted dimension of brand equity. Chen (2001) divided brand associations into two types, including product associations and organizational associations. According to Keller (1998), brand association can be generated through the association with attitudes, attributes, and benefits respectively. Brand associations may create value for the firm and its customers by differentiating and positioning the brand because it can reflect product’s characteristics (Jalilvand et al., 2011), and can encourage potential customers who are

looking for products that have the physical feature or emotional associations (Kurniawan & Diryana, 2015). Therefore, brand equity can be strongly supported by the associations that consumers make with a brand, which contributes to a specific brand image (Yasin et al., 2012). In other words, high brand equity means that customers have strong positive associations to the brand. Furthermore, results from various studies (e.g. Tong & Hawley, 2009; Mohan & Sequeira, 2012; Ahmad & Sherwani, 2015) pointed out that brand association affects overall brand equity. Hence, the following hypothesis of the relationship between perceived quality and brand equity is suggested:

H3: Brand association has a significant positive direct effect on brand equity.

2.2.4 Effect of Brand Loyalty on Brand Equity

Brand loyalty is defined as “the attachment that a customer has to a brand” (Aaker, 1991, p. 39). Brand loyalty is considered as the most essential component of brand equity. Brand loyalty involves behavioral loyalty and attitudinal loyalty (Chi et al., 2009). From a behavioral perspective, brand loyalty means the frequency of repeat purchase or relative volume of same brand purchase (Tellis, 1988). From an attitudinal perspective, focus of this study, brand loyalty focuses on the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice (Yoo & Donthu, 2001). According to Aaker (1991), brand loyalty adds value to a brand because it provides a set of habitual buyers for a long period. Moreover, brand loyalty has the power that can affect customer decision to purchase the same product or brand and decline to shift to other brands (Yoo et al., 2000). Loyal consumers show more favorable responses to a brand and are less likely to switch to a competitor just because of price (Bowen & Shoemaker, 1998). Therefore, brand loyalty will strongly add to increasing brand equity. Many results from various studies (e.g. Yoo et al., 2000; Tong & Hawley, 2009; Yasin et al., 2012; Buil et al., 2013b; Saydan, 2013; Ahmad & Sherwani, 2015; Azadi et al., 2015) pointed out that brand loyalty could affect overall brand equity. Thus, the following hypothesis is formulated:

H4: Brand loyalty has a significant positive direct effect on brand equity.

2.3 Conceptual Framework and Research Hypotheses

Based on relationships between brand equity components and overall brand equity, a conceptual framework and hypotheses are illustrated in Figure 1.

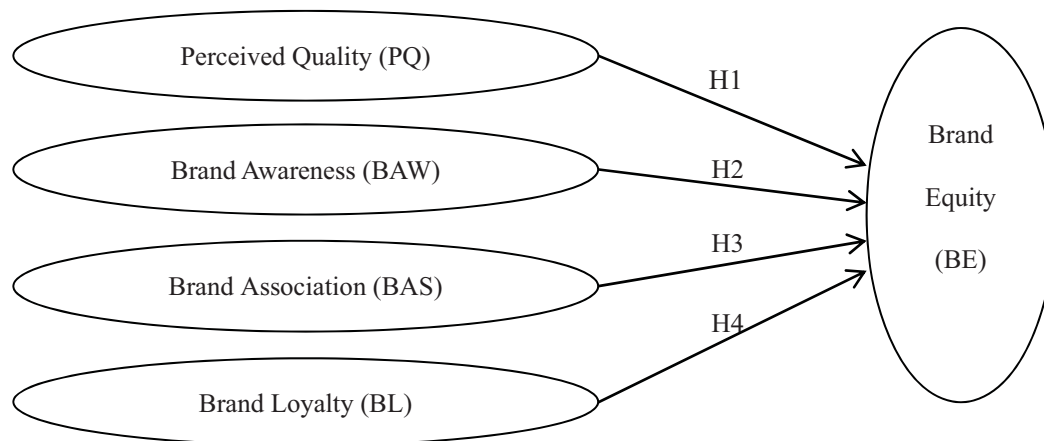


Figure 1. Conceptual framework

3. Methodology

3.1 Sample Selection and Data Collection

The empirical data in this research consists of questionnaire responses from consumers who have consumed Heineken beer in Vietnam. The survey was carried from August 2016 to October 2016. The questionnaire was firstly written in English and then translated into Vietnamese. Of the 327 received questionnaires, 322 valid questionnaires were completed, and the data from these 322 were analyzed. As such, 31.4 % of respondents are younger than 25 years old; 46.3 % are 25 to 45 years old and 22.3% are older than 45 years old. Males and females represent 70.8% and 29.2% of respondents respectively. Regarding income per year, it was found that 24.5% are below \$2,200; 42.5% are \$2,200 to \$8,100 and 32.9% are higher than \$8,100. Among the 322 respondents, 57.1 % live in the South (from Danang City) and the remainders live in the North (from Hue City).

3.2 Measurement Model

The measures for several constructs in the framework were derived from previous studies. All items were assessed on a five-point Likert scale where 1 stands for “strongly disagree” and 5 for “strongly agree”.

This research used three-item, three-item, four-item and three-item scales adapted from Tong & Hawley (2009) measured perceived quality, brand awareness, brand association and brand equity respectively. Similarly, three items were designed to measure brand loyalty were adapted from Yoo et al. (2000).

Data analysis follows three steps. Firstly, Cronbach’s alpha analysis to measure reliability coefficient for the items of each construct. Secondly, exploratory factor analysis (EFA) to determine the appropriate number of factors will be utilized in the analysis. Thirdly, confirmatory factor analysis (CFA) tests the adequacy of the measurement models. Finally, structural equation modeling (SEM) is applied to test hypotheses about theoretical relationships between latent constructs.

4. Research Analysis and Result

4.1 Cronbach's Alpha Analysis

The study used Cronbach’s Alpha to measure the internal reliability of constructs. The results show that Cronbach’s Alpha of perceived quality was 0.792, brand awareness was 0.749, brand association was 0.814, brand loyalty was 0.893, and brand equity was 0.868. Moreover, the item-to-total correlations were all higher the threshold of 0.30 for each component. As the alpha values for all constructs were higher than 0.7 (Nunnally & Burnstein, 1994), it means that all scales were considered reliable.

4.2 Exploratory Factor Analysis

The proposed model consists of four dimensions of brand equity (brand awareness, perceived quality, brand association, brand loyalty) and overall brand equity, which are measured by 16 items. The study used a principal component analysis with varimax rotation to extract main factors. The value of Kaiser-Meyer-Olkin statistics was 0.866, which higher than the acceptable limit of 0.5 and Bartlett’s test was significant, indicating the sample size is big enough to conduct factor analysis. The result showed that five factors were produced with Eigen-value is 1.048 (> 1) contributing 73.839% to item variance. Moreover, all the indicators of each factor were significant with factor loadings higher than 0.5 (Table 1).

Table 1. Convergent validity of the measurement model

	Component					α	CR	AVE
	1	2	3	4	5			
PQ1					0.856			
PQ2					0.854	0.792	0.797	0.567
PQ3					0.635			
BAW1				0.746				
BAW2				0.829		0.749	0.751	0.501
BAW3				0.806				
BAS1		0.785						
BAS2		0.701				0.814	0.815	0.525
BAS3		0.798						
BAS4		0.738						
BL1	0.848							
BL2	0.852					0.893	0.894	0.737
BL3	0.879							
BE1			0.805					
BE2			0.775			0.868	0.868	0.688
BE3			0.824					
Eigen value	5.891	1.892	1.505	1.477	1.048			
Total variance explained	36.820	48.647	58.055	67.289	73.839			

4.3 Confirmatory Factor Analysis

Assessment of the measurement model was conducted using confirmatory factor analysis. As a result, all factor loadings are above 0.5 and are statistically significant. All the composite reliability (CR) coefficients varied from 0.751 to 0.894 and were above the threshold 0.70 criteria (Hair et al., 2009), indicating support for the construct reliability. Similarly, all the average variance extracted (AVE) vary from 0.501 to 0.737 and were greater than the criteria of 0.50 (Fornell & Larcker, 1981), satisfying adequate convergent validity. Moreover, the result showed that the average variance extracted for any two constructs was always greater than the squared correlation estimate and all correlations between factors each other are significant, supporting the discriminant validity of the scales (Fornell & Larcker, 1981) (Table 2).

Table 2. Discriminant validity of the measurement model

AVE/R ²	PQ	BAW	BAS	BL	BE
PQ	0.567				
BAW	0.057	0.501			
BAS	0.204	0.102	0.525		
BL	0.192	0.058	0.243	0.737	
BE	0.362	0.148	0.355	0.325	0.688

4.4 The Structural Model

The result from evaluation of the structural model is shown in Figure 2. All of the fit measures indicated that the structural model was acceptable (model fit criteria suggested by Hu & Bentler, 1999): (χ^2)/df = 2.229 (p < 0.00); GFI = 0.914; AGFI = 0.876; CFI = 0.952; RMR = 0.057, and RMSEA = 0.062.

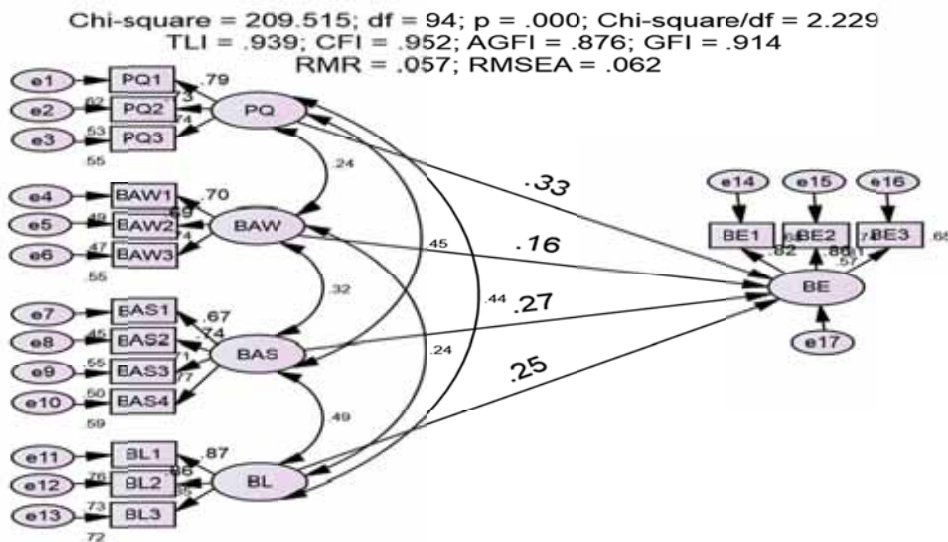


Figure 2. The SEM finalized model and results

With respect to the effect of brand equity dimensions on overall brand equity, the results supported all hypotheses. In other words, H1, H2, H3 and H4 respectively were accepted, which indicated the positive and significant roles of perceived quality (SEs = 0.331, p = 0.000), brand awareness (SEs = 0.159, p = 0.006), brand association (SEs = 0.270, p = 0.000) and brand loyalty (SEs = 0.254, p = 0.000) in affecting overall brand equity.

Table 2. Results of hypotheses testing

Relationships	Hypotheses	Standardized Estimate (SEs)	t-value	p-value	Results
BE ← PQ	H1	0.331	5.079	0.000	Supported
BE ← BAW	H2	0.159	2.772	0.006	Supported
BE ← BAS	H3	0.270	3.968	0.000	Supported
BE ← BL	H4	0.254	4.173	0.000	Supported

5. Conclusion and Implications

Since its debut in the 1980's, brand equity has received significant research attention in recent years. Although there are many empirical researches regard the effect of brand equity components on overall brand equity in various contexts, existing research on Heineken in Vietnam is still rare. Vietnamese beer market has been the largest in Southeast Asia, ranking third in Asia and being in the top 25. Among famous beer brands, Heineken is one of the most preferred brands by Vietnamese consumers. Therefore, measuring brand equity of Heineken in the Vietnamese beer market is necessary. Based on theories and empirical results, we propose a researching model and then test hypothesis with 322 consumers. As the results, the model yielded a good overall fit. In terms of hypothesis, the results showed that all hypotheses were supported. The findings of this research suggest some implications.

5.1 Managerial Implications

The findings support H1. Perceived quality (0.331) has positive effects on overall brand equity, which is similar with the previous results (e.g. Yoo et al., 2000; Buil et al., 2013b; Saydan, 2013; Ahmad & Sherwani, 2015; Azadi et al., 2015). The result implicates that in the Vietnamese beer market as the competition between brands are fierce and will be saturated next years, the key factor for Heineken to gain a competitive advantage and develop its brand is to maintain and improve actual quality, which drive perceived quality from consumers. Similarly, H2 showed that brand awareness (0.159) has a positive influence on brand equity. This result is consistent with previous studies by Taleghani & Almasi (2011); Mohan & Sequeira, (2012); Ahmad & Sherwani (2015); Mostafa (2015). The finding points out that Heineken should continue to strengthen brand awareness because the more familiar and more easily identifiable by consumers, the more likely Heineken will be engraved in the consumer's perception. Moreover, the result supports hypothesis H3, which indicated that brand associations (0.270) positively relate to brand equity. This outcome is congruous with conclusion from previous studies (e.g. Tong & Hawley, 2009; Mohan & Sequeira, 2012; Ahmad & Sherwani, 2015). This result implicates that Heineken should maintain unique, creative, distinctive, and impressive brand images because a strong association can create a favorable feeling and behavior toward the brand. Finally, hypothesis H4 posited that brand loyalty (0.254) enhances overall brand equity. This finding is consistent with various studies (e.g. Yoo et al., 2000; Tong & Hawley, 2009; Yasin et al., 2012; Buil et al., 2013b; Saydan, 2013; Ahmad & Sherwani, 2015; Azadi et al., 2015). This result reconfirms Heineken should reinforce customer loyalty because it plays an important role to overall brand equity in the beer market. In summary, the results implicate that marketers should pay attentions to perceived quality, brand awareness, brand association, and brand loyalty, which would enhance overall brand equity. In order to improve components of brand equity as mentioned, Heineken can apply the marketing mix elements such as sales promotions, advertising and distribution intensity etc.

5.2 Limitations and Future Research

A number of limitations must be considered. Firstly, the proposed model was tested with the sample size of only 322 consumers. Thus, the results may not be generalizable for Heineken in Vietnamese beer market. Therefore, future research should require a large sample size to reach reliable results. Secondly, this research considers components of brand equity which are the primary drivers of brand equity. Future research should identify the antecedents of brand equity components and it would be interesting to determine which marketing activities (e.g. advertising, sales promotions, distribution intensity) would help increase dimensions of brand equity and overall brand equity.

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Structural Analysis of Affecting Factors for Future Development of Green Spaces in Tabriz City

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Abstract

This paper attempts to analyze factors involved in the development of urban green spaces with a systematic and structural approach and extract the most important factors for the optimal development of urban green spaces using relationships between these factors. This applied study was conducted using a descriptive analytical method, which attempted to present solutions to structural development of green spaces in Tabriz City as a case study. This study's findings can be generalized on cities with same condition. Thus, in order to achieve this goal, all factors involved in the development of green spaces have been initially extracted using Delphi method. Then, analysis of factors that have been extracted from MICMAC, relevance of factors involved in the development of green spaces in the city of Tabriz have been analyzed and finally key factors were determined. Eleven factors have identified as key factors that have important role in development of optimal green spaces in Tabriz city.

Keywords: Structural Analysis, Development, Green space, Tabriz City

1. Introduction

Urban green spaces are nature survivors in cities, which suffer from qualitative and quantitative changes as a result of improper urban developments. Moreover, these developments are associated with many ecological, economic and social effects (Jim, 2008). With the increasing city's depletion of the irreparable capital of natural elements as well as due to increasing destruction of green spaces and eventually quality degradation and natural performance of cities' ecosystems, ecologists have found that to solve real problems of today's world, it is essential to focus on perspectives of man dominance, which often include urban perspectives (Johnson and Hill, 2002). Presence of nature in the form of natural, open and green lands in cities should benefit from necessary physical relevance with spatial extent, composition and distribution and must be interwoven with city in such a way that they are inseparable from each other in optimal conditions, and in fact it covers cities (Tjallingi, 2003).

Importance of urban green spaces is widely recognized in all societies in social performance, biodiversity conservation and other ecological processes for eco-friendly development. Increasingly, former urban planning methods paid less insufficient attention to environment and environment surrounding cities, which led to much criticism (Gomez & Salvador, 2006). To confirm multiple roles of green spaces, a certain level of quality development and distribution of green spaces in urban areas should be considered, which is considered part of environmental sustainability agenda. Achieving this goal requires an integrated approach and a structure in relation to planning, monitoring, design and protecting urban green spaces to improve environmental sustainability in cities (Md & Haq, 2011). Today, green space planning has become a priority in urban planning and requires an integrated approach to achieving sustainable urban environment (Waldheim, 2006). In urbanization processes, natural features such as vegetation and natural soil are replaced with building materials for constructing residential areas, commercial buildings, roads and parking lots, to the extent that today, there is no optimal balance between green space area and open areas between urban networks and land natural patterns (Thaiutsa et al., 2008). Results of studies on land use changes from 1976 to 2006 in the city of Tabriz indicate that during 30 years, area of 6970.99 hectares has been allocated to construction, a total of 1542.57h of which was constructed on city's green spaces and orchards. Actually During this period, 26.07% of this use type was destroyed in the city of Tabriz and was turned into profitable uses (Rahimi, 2013). During this period, green space per capita of about 14 square meters reached to 7.5 square meters (Beheshti roy, 2012). Also, over a period of 10 years (from 2001 to 2011), green spaces and orchards with an area of 165 hectares, approved by Article 5

of intracity texture change have been repurposed to other land uses such as housing, roads, sports, etc (Rahimi, 2013). Process of dealing with urban green spaces from earlier times indicates that if this trend continues, destruction and use changes of green spaces, orchards and farmlands will lead to a terrible threat to sustainable development and thereby unbalancing ecological system in Tabriz (and perhaps at the regional level).

With regards to increasing population's demand for urban lands, some ecological and environmental functions move towards proportionating quality of life for human populations (Li, 2004). Therefore, in urbanization processes, natural features such as vegetation and natural soils will be replaced with building materials for construction of residential areas, commercial buildings, roads and parking lots, to the extent that today there is no optimal balance between green space surface and open areas between urban networks and natural patterns (Thaiutsa, 2008). Moreover, urban networks are dominating ecological networks, which in itself lead to a ground for loss of green spaces within the city and use change of such lands, which may lead to global environmental problems such as formation of urban heat islands.

In mean time, green spaces play a significant role in supporting urban social and ecological systems (Barbosa et al., 2007). Therefore, special attention must be paid to the promotion of ecological green spaces in order to improve their productivity, because within cities, valuable ecological elements are increasingly reduced (Zangiabadi & Rakhshani nasab, 2009). Accordingly, experts believe that one of the main ways to deal with urbanization problems is to strengthen relationship between urban people with nature (Shahivandi, 2006). Today, cities require particular attention in terms of restoration of urban nature. Because presence of nature in necessary and sufficient size, composition and distribution in cities is considered one of sustainable development requirements, which is very important to improving quality of life in urban areas and makes these areas sustainable ecologically (Alizadeh & Salehifard, 2008). Based on structural and functional relationship principle, correlations between structural components and natural issues are modified when presence of components and relationship between main components has proper spatial structure in the context (Forman & Godron, 1986).

Structural analysis is one of the most used tools in futures studies. Structural analysis experienced since the middle of the 1980's an increasing number of application in various domains, within business as well as on society related topics (Arcade and et al., 2003). In long term view, decision makers need to justifiable anticipation for the major drivers that may effect on their domain key variables (Omran, Khorish, & Saleh, 2014). Therefore, this paper indicates the structural analysis for identifying the key factors in future development of Tabriz City's green spaces by answering to following question:

Which variables involved in development of green space of Tabriz city? And which of them has more influence on development of green space?

3. Methodology

Structural analysis seeks to identify key variables (overt and covert) in order to get feedbacks and encourage participants and beneficiaries on aspects and complex and unpredictable behavior of the system.

Structural analysis method is a tool for linking ideas and thoughts, which operates through correlation matrix of all system variables. This model is able to identify relationships between variables and eventually identify key variables affecting the system evolution. Structural analysis methods is among methods, which analyzes the relationships between variables and different components of a system and its output is effective in investigating relationships between variables and identifying their characteristics (Rabani, 2012). In this research, variables involved in the future development of green spaces in City of Tabriz are estimated using Delphi method. Then, structure of green spaces development in the city of Tabriz was analyzed using MICMAC software and key factors were extracted. It is worth mentioning that prediction method of "MICMAC" was invented by Michael Godet. He summarized the prediction method in the following steps:

Step 1: Evaluation of variables

The first phase includes a review of all variables detected within the intended system (internal and external variables); It should be noted that all variables are taken into account comprehensively. Use of experts' views helps expand set of variables and consider all potential actors in the intended system.

Step 2: Investigation of correlation between variables

In a structural analysis, there is possible of correlating between variables in a two-row table (direct correlation). Correlation degree of two variables is shown quantitatively. 0 means that there is no correlation between two variables and the amount of effect of variables can also be shown with corresponding numbers (0 = no correlation, 1 = poor correlation, 2 = moderate correlation, 3 = strong correlation). At this stage, we will face variable N and $N \times N$ questions (almost 5,000 questions for 70 variables), some of which will be discarded

without having systematic and comprehensive effect.

Step 3: Identification of key variables

This step includes identification of key variables, which is done using direct and indirect classifications.

Definition of direct classification: All relationships in a row reflect importance of a variable's effect on the whole system. Sum of a column represents affectability amount of a variable (level of direct affectability).

Definition of indirect classification: This program allows you to study effect expansion using path and feedback loops and eventually classify variables.

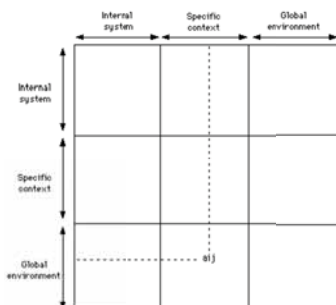


Figure (1). Structural analysis matrix

Source: Godet, 2012, 15

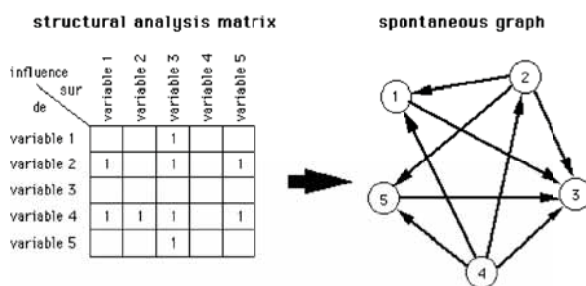


Figure (2). Structural analysis matrix and its diagram

Source: Godet, 2012, 15

4. Introduction of the Study Area

Tabriz city is the northwest hub in Iran in terms of population, industry, education and health. According to 2011 population and housing census, city of Tabriz has a population of 1,494,998 people.

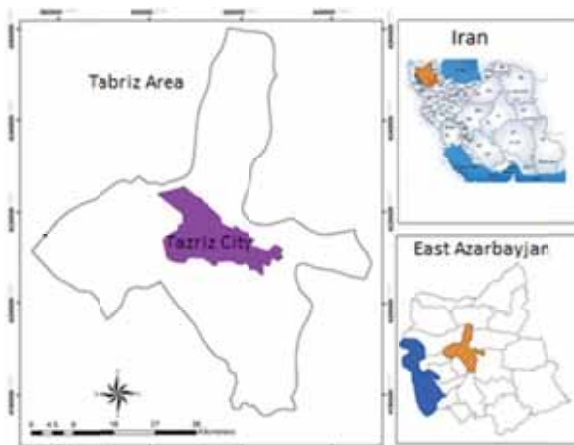


Figure (3). Geographic locating of Tabriz City

Source: compiled by author

Physical development of Tabriz metropolitan always leads to disappearance of orchards and urban green spaces. Tabriz city, which was once surrounded in midst of orchards and enjoyed rich agricultural lands in the city outskirts, has lost majority of them in favor of urban and often unnecessary construction by wrong government decisions in the form of urban development planning. Results of investigations in the last three decades indicate that rapid population growth and dominance of economic perspective to lands was associated with further expansion of metropolitan area of Tabriz in non-prone lands and destruction of agricultural and horticultural lands (Mahmoodzadeh, 2014: 175). Overall, parks and green spaces area in the city of Tabriz is 1333.88 hectares, which are dispersed across the city in an unbalanced and mostly peripheral ways.

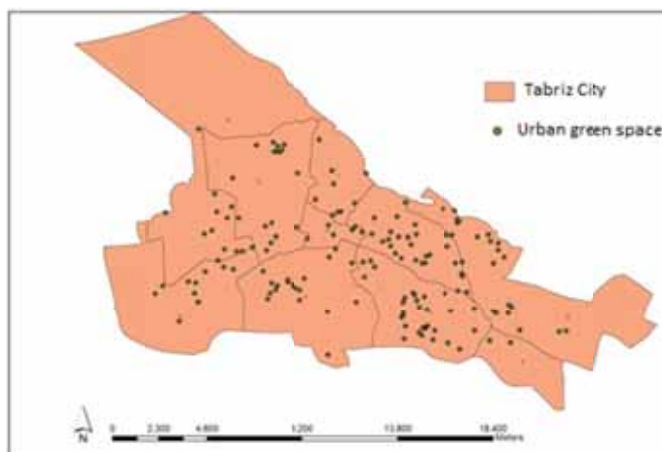


Figure (4). Dispersion of green spaces in Tabriz

Source: compiled by author

5. Results and Discussion

5.1 Opinion Polling Experts Using Delphi Method

In this study, to identify primary variables affecting future development of green spaces in the city of Tabriz, Delphi method is used as follows: First, experts and executives involved in the studied field were identified and selected. In this study, all specialists and experts in the green spaces development field, including university professors and parks staff as well as green space staff of ten municipality districts in Tabriz were surveyed (50 persons responded). After participants were selected, their views on future development of green spaces in city of Tabriz were surveyed and extracted. Finally, after monitoring variables, a total of 51 variables under six general factors (natural, socio - cultural, physical, environmental, economic and urban landscape) were selected as primary variables affecting the future development of green spaces in Tabriz.

Table (1). Factors affecting structural development of urban green spaces

Variable name	Class	Variable name	Class
Average annual precipitation	So Natural Factors	Allocating specific budget on behalf of urban management	Ph Economical
Available water resources		Use of appropriate agricultural land for economic savings in the long run	
Soil texture and depth		Acquisition and purchase of land in different places of the city	
Vegetation natural density		Mutual planning for green spaces in the outskirts area	
Average annual temperature		Investment in the development and protection of green spaces	
Prevailing wind speed		Provision of infrastructure for green spaces construction by the urban management	
Prevailing wind direction		Increase the economic efficiency of green spaces and in different parts of city centers and outskirts	
Humidity percentage		Temporal variety in using green spaces, especially in cold seasons	
Earth's tilt			
area of natural green spaces			
Construction and development of green promenade	So Cultural	Adequate and balanced distribution across the city	Ph Environmental

Green spaces maintenance and protection		Forestry development within and outside the city limits	
Equipping green spaces with recreational function		Construction of the green belt in suburbs	
Continuous use of green spaces		Design and implementation of water supply networks	
Proper for access to all citizens		Development of street green spaces (refuge, lawn and flower planting ...)	
Training and Strengthening public awareness in order to protect green space development		Construction of mountainous parks	
The use of appropriate genetic technologies on Plants for adaptation to climate		Diversification of green spaces functions	
Public participation in conservation and development of green spaces		Proper location for the ecological development of green spaces	
Natural and man-made attraction of green spaces			
Provision of security, equipment and facilities in public green spaces			
Managerial and institutional factors			
Organization of ecological networks (river, stream, watercourse, ...)			
Sustainable water resources (rivers, springs, water treatment plants, etc.)	Environmental	Continuity of green spots	City's vision
Biodiversity (using native species compatible with Tabriz environment, providing green spaces suitable for native animals)		Presence large spots of green spaces in four corners of the city	
Appropriate locating with regard to prevailing wind		Observing the structure of green spots (linear, point wise and polygon)	
Appropriate locating with regard to the reduction of environmental pollution		Planting of various plant species	
Dense planting of vegetation		Beautification and design of green spaces	
Using trees instead of grasses and drought-resistant species		Vertical green spaces (green roofs, green walls)	
		Attaching importance to green scenery in and around the city	

Source: compiled by author

5.2 General Analysis of System Environment

According to Delphi method mentioned above, a total of 51 variables in 6 areas were identified as factors affecting future development of ecological green space of Tabriz metropolitan and were studied and analyzed using cross-impact and structural analysis by MICMAC Software to extract main factors affecting future status of green spaces. Based on number of variables, a matrix with dimensions of 51 x 51 is used. By placing these factors in a 51x51 matrix, effect of each of these factors on each other was identified by weighting factors (from 0 to 3). All factors involved in planning of urban green spaces are considered as a system with intertwined elements and in the form of one structure and the relationship between these factors is measured so as to extract superior factors with higher effects. The number of repeated interaction between variables was considered two times and the matrix filling degree was 35.60 %, which shows dispersion of variables affecting development of ecological green spaces in Tabriz.

From a total of 890 evaluable relationships in this matrix, 1610 relationships are zero, 444 relationships are 1, 194 relationships are 2 and 252 relationships are 3. Also, the matrix had utility and optimization of 100% based on statistical indicators with two-time data rotations, which indicated a high validity of the questionnaire and its responses. In the following section, to analyze overall system environment and finally to identify key factors, affectability plans of variables as well as rating and displacement degree of variables are investigated.

Table (2). Initial data analysis of cross-impact matrix

Indicator	Value
Matrix size	51
number of interactions	2
number of zeros	1610
number of ones	444
number of twos	194
number of threes	252
Total	890
fillrate	35.6%

Source: compiled by author

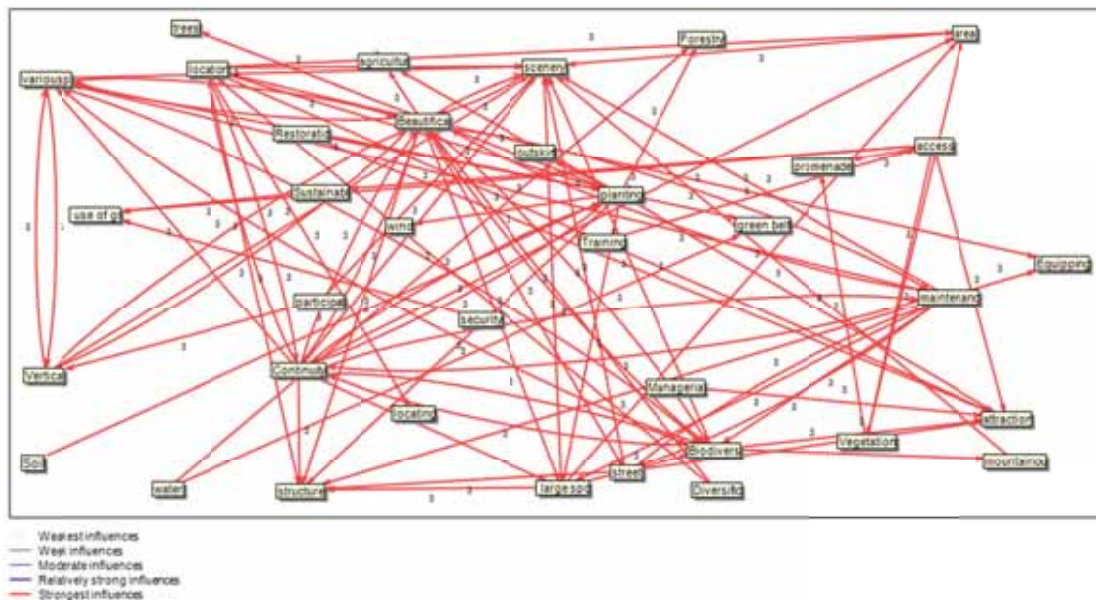


Figure (6). Direct relationships between variables (very weak to very strong effects

Source: compiled by author

The above diagram shows relationship between variables in "MICMAC" software.

5.3 Rating of Direct and Indirect Effects of Variables

According to the questionnaires that are completed in the form of a matrix, the software calculates the relationship between them and finally considers a numerical rating for each factor. Then, based on this rating, it ranks factors based on impact and affectability directly or indirectly, which in this case and on the basis of factors' rating, their impact and affectability rates changes. In the following table, green space development factors in Tabriz are ranked based on direct and indirect impact and affectability.

Table (3). Rating of direct and indirect effects of all involved variables in green space development on each other

Rank	Label	Direct influence	Label	Direct dépendance	Label	Indirect influence	Label	Indirect dependence
1	Managerial factors	572	scenery	506	Managerial factors	605	scenery	513
2	Sustainable water Resources	560	Biodiversity	415	Proper locating	521	Biodiversity	417
3	Proper locating	560	Attraction increasing	379	Sustainable water Resources	516	Attraction increasing	414
4	maintenance	536	Beautification	361	Proper access	506	Beautification	377
5	Proper access	512	promenade	331	Continuity	501	promenade	324
6	Dense planting	494		307	maintenance	499	Balanced distribution	301
7	Restoration of barren lands	482	Vertical GS	307	Restoration of barren lands	481	Restoration of barren lands	298
8	Biodiversity	470	various specious	301	Diversification of GS applications	434	Vertical GS	296
9	Green space continuity	470	Restoration of barren lands	289	Beautification	432	various specious	289
10	Diversification of GS applications	427	Balanced distribution	289	Biodiversity	421	Continuous use	288
11	Beautification	415	Continuity of green space	283	Dense planting	406	Continuity of green space	283
12	Large patches of GS	277	Continuous use	271	Water resources	299	area of natural GS	274
13	Water resources	271	Naturally covered	259	Vertical GS	298	the structure of green spots (linear,	258

							point ,polygon)	
14	street GS	265	The average of annual temperature	253	Texture and depth of soil	278	The average of annual temperature	244
15	Vertical GS	259	Mutual GS planning in surrounding areas	253	street GS	277	Mutual GS planning in surrounding areas	244
16	Texture and depth of soil	247	the structure of green spots (linear, point ,polygon)	241	Large patches of GS	236	Proper locating	237
17	Naturally covered	229	Forestry development	235	Naturally covered	235	Naturally covered	236
18	Attraction increasing	198	Sustainable water Resources	223	Attraction increasing	231	Large patches of GS	232
19	Organization of ecological networks	198	Dense planting	223	Organization of ecological networks	223	maintenance	229
20	Average annual precipitation	186	street GS	223	Allocating specific budget	186	street GS	227
21	Allocating specific budget	180	Large patches of GS	223	Average annual precipitation	176	Dense planting	221
22	Forestry development	162	Proper locating	216	various specious	173	Equipping green spaces	220
23	various specious	144	maintenance	210	Forestry development	157	Increase the economic efficiency	219
24	development of green promenade	138	Increase the economic efficiency	204	Balanced distribution	152	Forestry development	219
25	Public participation in conservation and development of GS	132	Equipping green spaces	198	development of green promenade	150	Sustainable water Resources	219
26	Design of water supply networks	126	Construction of mountainous parks	192	Public participation in conservation and development of GS	138	Construction of mountainous parks	197
27	area of natural GS	120	Prevailing wind speed	186	the structure of green spots (linear, point ,polygon)	131	Temporal variety in using GS	193
28	The use of appropriate genetic technologies on Plants	114	Humidity percentage	180	The use of appropriate genetic technologies on Plants	123	Prevailing wind speed	177
29	Increase the economic efficiency	114	Temporal variety in using GS	180	scenery	119	Use of appropriate agricultural land for economic savings	169
30	Balanced distribution	114	Proper access	174	Design of water supply networks	118	Humidity percentage	168
31	Construction of mountainous parks	96	Use of appropriate agricultural land for economic savings	174	area of natural GS	110	Proper access	166
32	the structure of green spots (linear, point ,polygon)	96	Using trees instead of grasses	162	Increase the economic efficiency	91	Texture and depth of soil	157
33	scenery	90	Construction of the green belt in suburbs	162	Construction of mountainous parks	87	Construction of the green belt in suburbs	154
34	Mutual GS planning in surrounding areas	84	Texture and depth of soil	156	The average of annual temperature	78	Acquisition and purchase of land in different places of the city	153

35	The average of annual temperature	78	Design of water supply networks	156	Training public awareness in order to protect GS	72	Using trees instead of grasses	151
36	Equipping green spaces	78	Appropriate locating with regard to prevailing wind	138	Equipping green spaces	72	Prevailing wind direction	138
37	Humidity percentage	72	Acquisition and purchase of land in different places of the city	138	Mutual GS planning in surrounding areas	67	Provision of infrastructure for GS construction	126
38	Training public awareness in order to protect GS	66	Water resources	132	Humidity percentage	59	Water resources	124
39	Provision of security, and in public GS	66	Provision of infrastructure for GS construction	120	Provision of security, and in public GS	58	Water resources	121
40	Provision of infrastructure for GS construction	48	Provision of security, and in public GS	108	Construction of the green belt in suburbs	48	Allocating specific budget	111
41	Construction of the green belt in suburbs	42	Managerial factors	96	Temporal variety in using GS	40	The use of appropriate genetic technologies on Plants	108
42	Acquisition and purchase of land in different places of the city	30	Allocating specific budget	96	Provision of infrastructure for GS construction	36	Provision of security, and in public GS	108
43	Temporal variety in using GS	30	Organization of ecological networks	90	Acquisition and purchase of land in different places of the city	28	Organization of ecological networks	92
44	Using trees instead of grasses	24	The use of appropriate genetic technologies on Plants	78	Use of appropriate agricultural land for economic savings	25	Managerial factors	73
45	Use of appropriate agricultural land for economic savings	24	Average annual precipitation	60	Continuous use	25	Average annual precipitation	55
46	Appropriate locating with regard to prevailing wind	18	Public participation in conservation and development of GS	60	Using trees instead of grasses	19	Public participation in conservation and development of GS	48
47	Continuous use	18	Investment in the development and protection	54	Investment in the development and protection	17	Investment in the development and protection	38
48	Investment in the development and protection	18	Earth's tilt	30	Earth's tilt	11	Earth's tilt	29
49	Earth's tilt	12	Training public awareness in order to protect GS	30	Appropriate locating with regard to prevailing wind	8	Appropriate locating with regard to prevailing wind	23
50	Appropriate locating with regard to prevailing wind	12	Appropriate locating with regard to prevailing wind	24	Prevailing wind speed	2	Training public awareness in order to protect GS	20

Source: compiled by author

5.4 Displacement Degree of Factors in Case of Direct and Indirect Effects of Variables

The following diagram shows displacement degree of factors in case of direct and indirect effects of variables. As the diagram shows, the displacement degree had not much impact on changing the position of factors.

Table (4). Key effective drivers (directly or indirectly)

Number	Variable	Direct effect	Variable	Indirect effect
1	Managerial and institutional factors	572	Managerial and institutional factors	605
2	Sustainable water Resources	521	Proper locating for ecological development	565
3	Proper locating for the ecological development	560	Sustainable Water Resources	520
4	Maintenance and protection	536	Proper access to all citizens	506
5	Proper access to all citizens	512	Green space continuity	501
6	Dense planting	494	Maintenance and protection	499
7	Restoration of barren lands	482	Restoration of barren lands	481
8	Biodiversity	470	Diversification of green space applications	434
9	Green space continuity	470	Beautification and design of green spaces	432
10	Diversification of green space applications	427	Biodiversity	421
11	Beautification and design of green spaces	415	Dense planting	406

Source: compiled by author

As the above table shows, all key drivers and factors affecting optimal planning of urban green spaces include following factors: managerial and institutional, proper locating for ecological development of green spaces, provision of sustainable water resources, maintenance and protection of green spaces, proper access for all citizens, Green space continuity, restoration of barren lands, dense planting, biodiversity, Beautification and design of green spaces.

Therefore, by taking into account these key factors in urban green spaces development scenarios, ecological development of green spaces and thus sustainable development in cities can be achieved.

The following diagram represents weight of key factors in the development of green spaces, which were effective directly and indirectly.

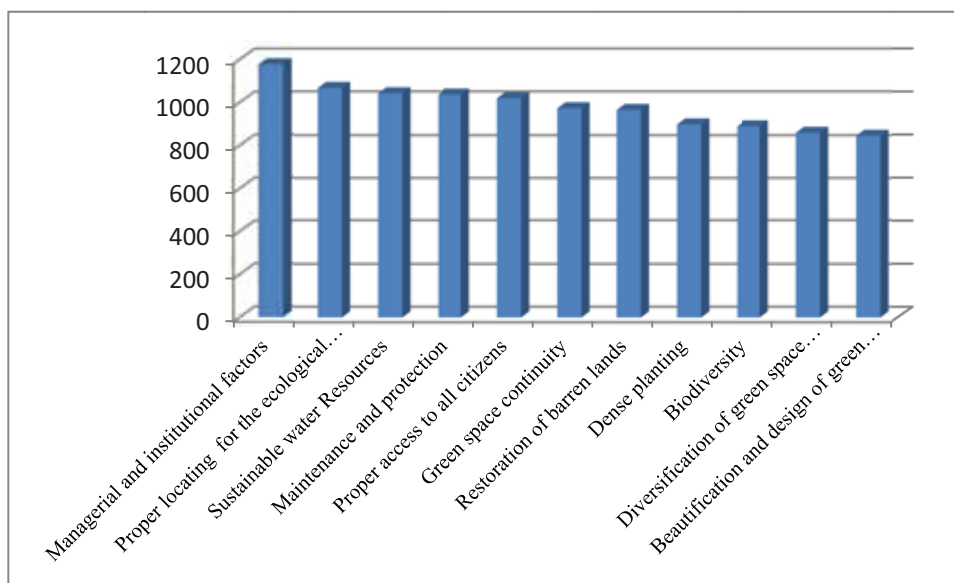


Figure (8). Factors with the highest impact rating with sum of weights of direct and indirect impact

Source: compiled by author

In both cases of direct and indirect effects, key factors have the highest weight compared with other factors, which is due to high importance of these factors in green spaces system of Tabriz metropolitan.

6. Conclusion

According to studies, following accelerating construction process in Tabriz metropolitan, especially in recent decades, the city suffered from severe damage in terms of ecologically important elements, particularly regarding green spaces and has lost these valuable spaces day by day to the benefit of economic gains (in terms of urban planning and urban physical development).

To resolve shortage of natural green spaces in cities, having a systematic and structured approach to the development of urban green spaces for present and future are necessary for proper planning for such spaces. Tabriz city with a high population density as well as having an increased density of housing and a variety of industrial and municipal facilities and equipment; requires a qualitative and quantitative improvement of urban green spaces in line with increasing ecological and social functions of these spaces.

In this study, using Delphi method after opinion polling relevant experts in the planning of urban green spaces, factors and variables involved in the development of green spaces were extracted and then driving and key factors for the future development of green spaces were specified after weighting, according to experts in MICMAC software.

Structural planning for the future development of urban green spaces, all factors involved in the planning of green spaces are considered like a system with intertwined elements and in the form of a structure. Moreover, associations between these factors are evaluated and factors with higher effect are extracted. These superior factors are used to plan the development of green areas so that ecological structure of urban green spaces bring sustainable development for the city in the best way. In order to achieve this goal, all components of natural, socio - cultural, ecological, economic, physical and urban landscape factors are involved as a system.

Finally, eleven factors; “managerial and institutional, proper locating for ecological development of green spaces, provision of sustainable water resources, maintenance and protection of green spaces, proper access for all citizens, Green space continuity, restoration of barren lands, dense planting, biodiversity, Beautification and design of green spaces” were determined among key factors for the future development of green spaces in Tabriz City and structural development of urban green spaces for present and future requires taking into account these key factors are in the planning process. If these key factors are coherently and systematically planned for the future development of green spaces in the city of Tabriz, they will help to creating perfect green spaces and substantially reduce environmental problems and consequently social and psychological problems in the city of Tabriz.

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