Impact of Knowledge Management and Organizational Learning on Different Dimensions of Organizational Performance: A Case Study of Asian Food Industry

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Abstract

The main purpose of the study is to establish the relationships between knowledge management (KM) and organizational learning (OL), and their impact on three different dimensions of organizational performance (OP) in manufacturing food industries. 172 companies in food industry were selected in China, Taiwan and Malaysia, and structural equation modeling (SEM) is applied to test the hypotheses in the research model. The results show that KM and OL have positive effect on three dimensions of OP.

Keywords: knowledge management, organizational learning, organizational performance

1. Introduction

Food industry is considered as one of the knowledge-intensive sectors explain by its considerable amount of knowledge input, short life cycles of product, high customized products demand and significant production value. The survey results of knowledge-intensive manufacturing food companies in Malaysia, Taiwan and China.

This research uses Structural Equation Modelling (SEM), the most general multivariate method introduced by Jöreskog (1967) to study the casual organizational characteristics influence on the performance of manufacturing companies. By extension, SEM is also used in the analysis of multiple regressions, factor and path analyses, latent variable analysis, covariance structure analysis and confirmatory factor analysis. SEM is an outcome of multi equation models resulting from econometrics and measurement models from psychology (Black, Babin, & Anderson, 2010).

2. Literature review and hypothesis

Knowledge is not only an important resource for an organization, but it also serves as a fundamental source of competitive advantages (Gold, Malhotra, & Segars, 2001; Jaworski & Kohli, 1993). There has never been a unified single definition of knowledge for organizations (Yu, 2010). Nonaka (1994) and Polanyi (1962) believe that there are two types of knowledge exist, namely; explicit knowledge and tacit knowledge.

Learning ability is a natural talent in every normal human being through which he/she can adapt himself/herself to the dynamic environments surrounding him/her. It is through learning that human beings arrive at new concepts and insights that guide him to effective decisions for appropriate reactions and immediate correction of mistakes and errors (Argyris & Schon, 1978). As part of human nature, the role and impact of learning extends to our business and career and consequently, its quality determines the rate of success in our organizational tasks.

According to Garratt (1990), a learning organization is the application of organizational development and learning, therefore, in order to come to consumers’ satisfaction, it is necessary for the organization to develop its personal and group learning abilities. Moreover, OL is considered as a dynamic process based on knowledge, implying moving along the different levels of action, from the individual to the group levels, and then to the organizational level and back again (Huber, 1991).

As viewed by other studies, Weiling Ke and Kwok Kee Wei (2006) have discussed and identified knowledge as the antecedent and the base of OL. Therefore, as the first hypotheses of this study we can assume:
H$_1$: There is a positive relationship between Knowledge management and organizational learning in manufacturing food industry.

KM is intended to increase organizational quality and performance and help the company to compete effectively with other companies in the market(Wilcox King & Zeithaml, 2003). Bogner and Bansal (2007) have distinguished three components of KM systems that affect the performance of a company, i.e., its ability to generate new knowledge and based on that knowledge, effectively achieve a high quantity of the resulted spin-offs (Chen & Mohamed, 2008). However, occurrence of sustained competitive advantage in itself depends on the company’s development of a distinctive core competency such as KM (Hoffman, Hoelscher, & Sherif, 2005). The outcome of the above discussion is formulated in the following hypothesis

H$_2$: knowledge management has positively effects on financial performance in food industry

H$_3$: knowledge management has positively effects on marketing performance in food industry

H$_4$: knowledge management has positively effects on partnership performance in food industry

It is also commonly agreed among various scholars and researchers that OL forms the foundations in gaining a competitive advantage, an important variable in improving the performance of the organization(Brockman & Morgan, 2003; Garvin, 1993;Stata & Almond, 1989). As a result of learning, organizations can be more flexible and quicker in their reactions and responses to the new environments and challenges (Slater & Narver, 1995). The results of some studies provide substantial amount of evidence to support the positive impacts of the OL on company performance. Therefore we assume:

H$_5$: organizational learning has positively effects on financial performance in food industry

H$_6$: organizational learning has positively effects on marketing performance in food industry

H$_7$: organizational learning has positively effects on partnership performance in food industry

3. Methodology of the study

With the above points, it is understood in this study that a system is employed in which KM and OL that have interrelationship between them are independent and OP as output. As per the reviewed literatures, the research framework constructed in this study is presented in Figure 1.

Situation of Figure 1

In this study, qualitative survey will employed to empirically examine the hypotheses proposed in the research framework. The data collection period spanned between October 2012 and February 2013 for a period of five months. The prepared questionnaires were distributed to 650 randomly selected food manufacturing companies in China, Taiwan, and Malaysia. Chief Executive Officers (CEO), Managing Directors, Senior Managers were targeted as the key informants. Only 174 companies returned the completed questionnaires which provided this study with a response rate of 23%.

We use KM model proposed by (Gold et al., 2001) who defined KM as three processes including knowledge acquisition, knowledge conversation and knowledge application. According to the definition, OL refers to activities which firms perform to transform learning capabilities of both competitors and individuals (Jerez-Gomez, Céspedes-Lorente, & Valle-Cabrera, 2005). OL has four dimensions, namely: management commitment, system perspective, openess and experimentation, and knowledge transfer and integration. Three dimensions of organisational performance; financial, marketing, and partnership performance are applied based on Emden, Yaprak, and Cavusgil (2005) study.

SEM is a statistical methodology that utilises a combination of qualitative causal assumption and statistical data to estimate and test for causal associations. SEM is use for purposes like multiple regression which serves in a stronger and more influential manner by taking into account the nonlinearities, modelling of interactions, correlated independents, correlated error terms, measurement error, latent independent (one or multiple) each evaluated by multiple indicators, and latent dependent (one or more) each measured with multiple indicators.

4. Results

Figure 2 shows the graphical relationship between constructs (KM and OL) and measurements (financial, marketing, and partnership). The correlation between KM and OL is 0.57 and based on Table 1 findings, we illustrate this correlation as positive and significant. Therefore the first hypothesis is supported by our data analysis.

Situation of Figure 2
Table 1 presents the overall model fit and the test of each hypothesis. As shown, the results of path analysis indicate an adequate fit: AGFI=0.921, RFI=0.911, IFI=0.921, CFI=0.941, GFI=0.907, NFI=0.902, TLI=0.917 and RMSEA=0.056. KM has significant effective on all three dimensions financial (H2; $\beta_2=0.77$, C.R=6.046), marketing (H1; $\beta_1=0.63$, C.R=5.878), and partnership (H4; $\beta_4=0.73$, C.R=5.854). Although OL has significant effective on marketing performance (H5; $\beta_5=0.53$, C.R=5.002), it does not have significant effective on financial (H6; $\beta_6=0.53$, C.R=5.002) and partnership (H7; $\beta_7=0.53$, C.R=5.002).

Situation of Table 1

5. Discussion

The findings of this study in the food industry of the three countries provide additional evidence to previous literature in organizational behavior that KM has a positive effect on OL (Jerez-Gomez et al., 2005; W. Ke & K. K. Wei, 2006; Liao & Wu, 2009). The findings also present a positive significant relationship between KM and OP (Mills & Smith, 2011). The impact of OL on OP was confirmed by some past studies (Calantone, Cavusgil, & Zhao, 2002; Hult, 1997; Jiménez-Jiménez & Sanz-Valle, 2010; Ussahawanitchakit, 2008) though we are interested in the effect of OL on three different dimensions of performance in food industry. We found the relationship between OL and marketing performance in the manufacturing food industry in Taiwan, China, and Malaysia is significant but its relationships with financial and partnership performance are not significant. These three dimensions of performance were considered by Liao and Wu (2009) and they found in Taiwan’s OL has significant with financial performance and not significant with marketing and partnership performance.

Moreover, OL influences OP under some conditions; hence, managers should not widen the performance perspectives. OL has direct impact on the marketing performance but not directly significant impact on financial and partnership performances in manufacturing food industry. Therefore, managers should take other measures into consideration to enhance their levels of relations and significance. These measures form the focal points of this study.

This study has some research limitations including self-reporting and single sourcing. The potential problem was checked using the one-factor test of Harman (Podsakoff & Organ, 1986). As expected, analysis of a ten vital variable un-rotated factor resulted in a ten-factor solution, accounting for 84 percent of the total variance; and Factor 1 accounts for 16 percent of the variance. Since a single factor does not appear and Factor 1 cannot explicate most of the variance, it is unlikely that the common method bias will be a source of concern in the data set. Furthermore, when the common method bias deals with self-report, it causes overstatement of the perceptual data in the literature which can be unreal as per results of several researches (Spector, 2006).

Acknowledgement

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References


Annexure

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<tr>
<td>Knowledge Acquisition</td>
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<td>Knowledge Conversation</td>
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<td>Knowledge Application</td>
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<th>Partnership Performance</th>
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**Figure 1.** Research Framework
### Figure 2. Research model

### Table 1: Parameter estimated and goodness of fit indices

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Path</th>
<th>Standardized coefficient</th>
<th>C. R.</th>
<th>p</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁</td>
<td>KM↔OL</td>
<td>0.57</td>
<td>4.97</td>
<td>&lt; 0.01</td>
<td>Supported</td>
</tr>
<tr>
<td>H₂</td>
<td>KM → Financial Performance</td>
<td>0.77</td>
<td>6.04</td>
<td>&lt; 0.01</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>KM → Marketing Performance</td>
<td>0.63</td>
<td>5.87</td>
<td>&lt; 0.01</td>
<td>Supported</td>
</tr>
<tr>
<td>H₃</td>
<td>KM → Partnership Performance</td>
<td>0.73</td>
<td>5.85</td>
<td>&lt; 0.01</td>
<td>Supported</td>
</tr>
<tr>
<td>H₄</td>
<td>OL → Financial Performance</td>
<td>0.10</td>
<td>1.14</td>
<td>0.251</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H₅</td>
<td>OL → Marketing Performance</td>
<td>0.22</td>
<td>5.00</td>
<td>&lt; 0.01</td>
<td>Supported</td>
</tr>
<tr>
<td>H₆</td>
<td>OL → Partnership Performance</td>
<td>0.08</td>
<td>0.87</td>
<td>0.382</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

AGFI = 0.921  
RFI = 0.911  
IFI = 0.921  
CFI = 0.941  
GFI = 0.907  
NFI = 0.902  
TLI = 0.917  
RMSEA = 0.056