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DOES ORGANIZATIONAL LEARNING MATTER?

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ABSTRACT

The aim of this research is to empirically test the relationship between organizational learning and performance in SMEs in the ICT industry in Malaysia. According to the literature, organizational learning and innovation are crucial factors in organizational performance but the focus of this study is to determine whether organizational learning lead to better organizational performance. This study was conducted in a sample of 278 SMEs in Malaysia. The hypotheses in this study were developed to examine the relationship between organizational learning (OL) and organizational performance (OP). To conduct the analysis we made use of Analysis of Moment Structure (AMOS) and Statistical Package for Social Sciences (SPSS). The obtained results support the hypotheses implying a positive relationship between OL and OP. Several implications for management and policy are also discussed in light of the findings of this study.

Keywords: Organizational performance, Organizational learning, Small and medium sized enterprises, ICT industry.

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Contribution/Originality

Due to the growing interest in OL as an effective strategy for organizational performance (OP), the present research is one of very few studies which have investigated the relationships between OL and OP in small and medium enterprises (SMEs) in Malaysian context where SMEs play an integral role in the overall well-being of the country's economy.

1. INTRODUCTION

Organizations are in a continuous process of searching for strategies that would provide them with a competitive advantage. Efficiency in stable environments is achieved through standardized routines, division of labor and management control (Grant, 2005;2010). However, recent changes in the business environment have compelled firms to search for new strategies for competitive edge as the conventional strategies have become obsolete (Chirico and Salvato, 2008). Economic globalization, which refers to integration of operations and markets in a borderless economic space (Johnson and Turner, 2003), and advances in information and communication technology are among the central environment forces faced by contemporary organizations (Roy, 2005; Hanna, 2009). In order to cope with the current external opportunities and threats, organizations have to learn, that is, acquire new knowledge and skills that will improve their current and future performance (Child *et al.*, 2005). According to De Geus (1988), “the only competitive advantage the company of the future will have is the ability of its managers to learn faster than the competitors,” Many other researchers suggest that the effective strategy for sustaining and improving a firm’s competitive edge and performance is organizational learning (OL) (Senge, 1990; Sinkula *et al.*, 1997; Mavondo *et al.*, 2005). The increasing domestic and global competition in product markets is forcing the prices down while driving up the requirements for quality and innovation (Abonyi, 2007). This increasing competition creates a difficult competitive environment for enterprises that do not comply with the changing rule of business. The challenges faced by SMEs while competing in domestic or even global markets are compounded by their size and limited resources as opposed to the well-established corporations which enjoy advantages of economics of scale (Audretsch, 2009). In the Malaysian context, SMEs are faced with challenges such as limited adoption of technology, lack of skilled expertise, and competition from large corporations and globalization (Ahmad *et al.*, 2010). The reason for choosing SMEs is that they play an integral role in the overall well-being of a country’s economy both in developed and developing communities (Turner *et al.*, 2010). Through flexibility, which allows them to quickly adapt to changing market conditions, SMEs also generate employment, help diversify economic activities, and contribute significantly to export and trade (Kamel, 2010).

The study’s conceptual framework hypothesizes that a firm’s level of OL contributes to its OP. An integrative model of OL and OP, which is based on prior literature, serves as the conceptual framework for the study.

2. LITERATURE REVIEW

2.1. Organizational Learning

Traditionally, learning is understood as a process through which an individual acquires knowledge, skills, attitudes and opinions (Illeris, 2004; Pauleen and Gorman, 2011). Argyris and Schon (1978) define learning as “the way errors are detected and corrected, especially error that are complex and potentially embarrassing and threatening”. The review of the literature on OL

indicates that there are distinct perspectives on OL that differ in respect to certain basic assumptions. These assumptions include rationally, the nature of the organization and its environment. It is also based on the nature of reality whether objective reality or subjective construction of reality, and on the emphasis on certain aspects of OL such as the cognitive, the culture of the action perspective (Pawlowsky-Glahn and Egozcue, 2001). Shrivastava (2007) is considered the first author to systematically distinguish the perspectives of OL (Pawlowsky-Glahn and Egozcue, 2001). His typology of OL systems was a first step in developing accurate descriptions of OL situations in organizations (Neilson, 1997). Capitalizing on the early work of Cyert and March (1963). Shrivastava (2007) classifies OL as (i) adaption, (ii) assumption sharing (iii) developing knowledge of action-outcome relationships, and (iv) institutionalized experience. Adaption and action-oriented perspectives are rooted in sociological theories of knowledge (Pawlowsky-Glahn and Egozcue, 2001). They appear to be incremental based on experience, and with a clear focus as to why OL is taking place (Blackman and Henderson, 2005). Assumptions are mental models built up by individuals while institutionalized experience is a combination of frameworks which make up the knowledge gained by repeatedly practicing the same skills (Blackman and Henderson, 2005). The perspective of OL adopted in this study is the cultural perspective which focuses on the collective learning of the organization. This perspective of OL, as noted by Weick and Westley (1996), allows researchers to focus less on cognition and what goes on in individual minds, and more on what goes on in the practices of groups. This perspective of OL also distinguishes learning from error-correction, adaptation to environmental changes and other systems-theory-infused metaphors of learning (Yanow, 2000).

Table-1. Summary of Perspectives on OL

Authors	OL Framework
Shrivastava (2007)	Adaptive learning Assumption learning Development of knowledge base Institutionalized experience effects
Daft and Huber (1987) Huber (1991)	Systems structural perspective Interpretive perspective
Edmondson and Moingeon (1998)	Residues Communities Participation Accountability
DiBella and Nevis (1998)	Normative Developmental Capability
Pawlowsky-Glahn and Egozcue (2001)	Organizational decision-making and adaption System-theory Cognitive and knowledge Cultural Action-learning

2.2. Organizational Performance

Organizational performance (OP) is a crucial component of empirical research in business and management studies (Dess and Robinson, 2006). Authors such as Dess and Robinson (2006), Hubbard (2009), Rogers and Wright (1998) and Venkatraman and Ramanujam (1986) acknowledge that conceptualizing OP in the field of business policy is a daunting task. The reason for the difficulty in conceptualizing the OP construct is that “(it) is a complex and multidimensional phenomenon” (Dess and Robinson, 2006).

The literature identifies two main types of OP measures namely financial and non-financial measures. Financial performance (FP) is quantitative information expressed as a monetary unit, while non-financial performance (NFP) is qualitative information expressed as a non-monetary unit (Mejía *et al.*, 2010). OP measures that rely solely on FP metrics such as return on assets (ROA), return on equity (ROE), sales and sales growth have been criticized for over-emphasizing short-term returns that discourage long-term investments and do not capture all the relevant dimensions of OP (Crawford and Cox, 1990; Kaplan and Cooper, 1997; Tangen, 2004).

NFP measures focus on firm’s long-term success factors such as customer satisfaction, internal business process efficiency and employee satisfaction (Hoque, 2005; Mejía *et al.*, 2010). Such non-accounting measures are better than financial metrics in terms of capturing the value of intangible assets and are more useful in predicting future FP (Ittner and Larcker, 1998). This type of performance measure also suffers a potential drawback when organizations fail to identify, analyze and act on the appropriate non-financial measures (Ittner and Larcker, 1998).

Another aspect related to the measurement of OP is objective versus subjective indicators (Muckler and Seven, 1992; Schachter, 2010). Objective measures refer to the actual numerical measures of performance such as annual sales. Subjective measures, on the other hand, are the perception based measures that depend upon the opinions of individuals (Dawes, 1999).

Obtaining objective measures of performance has been a source of concern for research in strategic management and business policy particularly when it involves small and medium firms as in the present study. Dess and Robinson (2006) assert that “the researcher investigating small firms is often confronted with an inability to obtain objective measures on a consistent basis.” The authors go further to explain the causes of such inability:

First, access to performance data on privately-held firms is severely restricted. Such information is not publicly available. Owners, very sensitive about releasing any performance-related data, are the sole gatekeepers to such information on individual firms. Secondly, even if access to such information is obtained with privately-held firms, there is greater risk of error attributable to varying accounting procedures in these firms.

Recognizing the limitations of relying on one aspect OP (either FP or NFP) and the inherent problems found in obtaining objective measures of OP, the present research will combine both financial and non-respondents indicators of OP. Additionally, the study will also use subjective data based on perception of senior management of participating companies.

Brownell and Dunk (1991) posit that the nature of any bias by this form of self-reporting measure has never been described or shown to impair the inferences drawn from the data. This opinion is further supported by Venkatraman and Ramanujam (1986) who assert that “neither type of measure (subjective and objective) is intrinsically superior to the other in terms of consistently providing valid and reliable measures of performance.” Brownell and Dunk (1991) also argue that there is no convincing evidence that objective measures e.g. financial data are either more reliable or valid in studies. Other authors such as Dess and Robinson (2006), Pearce *et al.* (2006), Hart and Banbury (2006), Dawes (1999), generally accept that subjective performance measures are highly correlated with objectives ones, and can be used if objective data are not available or easily obtained.

3. RESEARCH FRAMEWORK AND DEVELOPMENT OF HYPOTHESES

To examine the relationships between OL and OP the conceptual model in Figure 1 is developed.

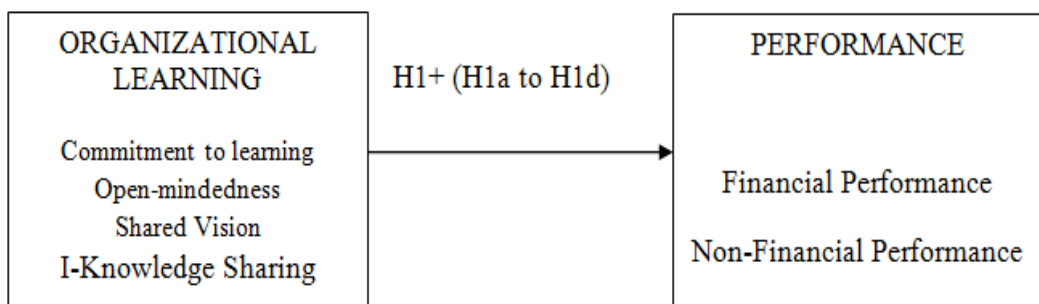


Figure-1. Research Conceptual Framework

Previous studies in this domain provide evidence on the impact of OL on overall organizational performance (OP). Therefore, it is hypothesized that:

H₁: OL is positively and directly related to OP

Based on the conceptualization of OL as comprising of four dimensions, the following sub-hypotheses are formulated:

H_{1a}: Firm's commitment to learning is positively related to OP.

H_{1b}: Shared vision is positively related to OP.

H_{1c}: Open-mindedness is positively related to OP.

H_{1d}: Intra-organizational knowledge sharing is positively related to OP.

4. RESEARCH METHODS

The research method employed in the present study is the survey method which focuses on surveys that are conducted to advance scientific knowledge. This method is in line with the objective of the research, which is aimed at explaining, hypothesizing and testing the relationship

among the research constructs. The ultimate aim is to test the existing theories on which the current research is founded and “enhance our understanding of the relationships among theoretical constructs and the mapping of these constructs onto the empirical worlds” (Edwards and Bagozzi, 2000).

4.1. Research Population

Population refers to all people or subjects under study from whom a sample is to be drawn for the research (Somekh and Lewin, 2004). The population of interest in this study is defined as Malaysian small and medium sized companies providing value added services in the ICT sector. The sample for the study is drawn from a theoretically available population of 2520 companies listed in the official database of the Multimedia Super Corridor (MSC) as of September 2011. The database provides the name of the company, the brief activity, year of approval and contact information.

4.2. Sampling Design

The sampling technique adopted in this study is based on probability procedure. Under this sampling technique, stratified random sampling is chosen to increase the sample’s statistical efficiency (Cooper and Schindler, 2008), and to ensure that the sample chosen is representative of the population (Levy and Lemeshow, 2009). Following the stratification, systematic sampling was applied as recommended by Babbie (2010). First, the stratified companies were combined in a continuous list, beginning with creative multimedia companies and ending with IT companies. Considering limitations of time and budget, a sample size was set at $n = 450$. Next, a random number 2 was chosen between 1 and 3 such that a company having that number and every 3rd company in the list was selected in the sample. This produced a sampling ratio of 1/3.

4.3. Measurements

To test the proposed research hypotheses, multi-item scales were adopted from previous studies for the measurement of the constructs. The following section describes the measurement instruments used in the study.

4.3.1. Organizational Learning

From the conceptual framework, four dimensions of OL are identified: commitment to learning, shared vision open-mindedness, and inter-organizational knowledge sharing. This construct is measured using a seven-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree) adopted from Calantone *et al.* (2002). The first three dimensions are all measured by four items while intra-organizational knowledge sharing is measured with a five-item scale. Studies that use a similar scale such as Farrell and Oczkowski (2002), Farrell and

Mavondo (2004), Hult *et al.* (2004), Keskin (2006) and Ussahawanitchakit and Chaveerug (2008), report an acceptable internal consistency of the scale with an alpha ranging from .80 to .90.

4.3.2. Organizational Performance

Organizational performance is measured in terms of financial and non-financial indicators. To measure the construct, this study will adapt the organizational performance measure developed by Prieto and Revilla (2006). The measurement tool is based on a five-point Likert scale ranging from 1 (very unsuccessful) to 5 (very successful). Cronbach's alpha values for the financial and non-financial measures are .72 and .90 respectively, which suggests satisfactory levels of construct reliability (Nunnally, 1978).

4.4. Data Collection Procedures

For the collection of primary data in this study, a survey questionnaire was mailed to the chief executive officers or managing directors of the selected organizations. The reason for choosing these managers as respondents is their critical importance in making decisions and developing the culture of learning orientations. The rationale for choosing this type of survey administration is the cost effectiveness and speed in terms of dissemination and data analysis (Lippert, 2002). After about 10 days of mailing the questionnaire, a telephone follow-up was made to non-respondents to verify that they have indeed received the questionnaire, and reminding them of the importance of the research study (Fowler, 1993).

5. DATA ANALYSIS AND RESULTS

The selection of appropriate method of analysis is determined by the hypotheses and characteristics of the data. The present study intends to examine the structure of relationship between OL and OP. This type of analysis requires a sophisticated statistical tool such as structural equation modeling (SEM) that will leverage the complex techniques needed to manage multiple variable relationships. With the advent of versatile and powerful computer software programs performing such analyses has been reasonably convenient for many researchers. To test the research hypotheses of this study, a multivariate analysis will be utilized. The SEM technique will be applied using analysis of moments structure program (AMOS 18.0) to test the hypotheses concerning the relationship among OL and OP.

5.1. Profile of Respondents by Position

The profile of respondents by their positions is summarized in Table 2. The table shows that most of the participants were chief executive officers (CEOs), general managers, vice presidents and managing directors. This indicates that most of the respondents were high-ranking executives, and were therefore in a position to provide relevant feedback to the survey questions.

Table-2. Profile of Respondents by Position

		Frequency	Percent	Cumulative Percent
Valid	COO	4	1.4	1.4
	MD	59	21.2	22.7
	CEO	163	58.6	81.3
	GM	47	16.9	98.2
	OTHERS	5	1.8	100.0
	Total	278	100.0	

Notes: COO: Chief Operating Officer, MD: Managing Director, GM: General Manager

5.2. Item-to-Total Correlation

To complement the shortcomings of the coefficient alpha, Corrected item-total correlation (CITC) analysis is used to further examine the internal consistency of the research instrument. It shows the CITC for the OL construct and the subsequent changes in Cronbach's alpha if each individual item is eliminated in turn. The range of CITC for commitment learning (CL) is .47 and .66. These values are well above the recommended .30 threshold. For the shared vision (SV), all items except OL8 are above the .30 cutoff criteria. The deletion of OL8 would increase the alpha level of the SV subscale to .80. Similarly, all items under open mindedness (OM) dimension performed poorly in the item analysis test with values below .30. A further inspection of the results shows that only one item (OL17) under knowledge sharing (KS) dimension did not meet the CITC criteria of .30. The deletion of this item would increase the alpha level to above .80.

Following recommendations in the literature that an item which falls below the recommended threshold should be eliminated from the scale, all items below the .30 cutoff (OL8, OL9, OL10, OL11, OL12, and OL17) were therefore excluded from further analysis. This low CITC of these items indicate that they do not measure the same thing as the rest of the items in their respective subscale (Blanche *et al.*, 2006).

This research construct comprises of two dimensions: non-fictional performance (NFP) and financial performance (FP) dimensions with three items in each dimension. The item total statistics for all variables of FP and NFP depict a strong CITC ranging from .34 to .62. These values indicate a good measure of internal consistency of the research instrument. This implies that the scale employed in this study is reliable (Ellis and Mead, 2002; Taylor *et al.*, 2006).

5.3. Confirmatory Factor Analysis

In order to test the construct validity we made use of confirmatory factor analysis (CFA). The CFA model for OL is done to represent the hypotheses that CL, SV and KS all represent OL construct. Using the multiple fit indices highlighted that the initial estimation of the model was below the recommended guidelines for a good model fit. The following fit indices were reported: chi square = 408.2 (24); $p < 0.01$, normed $\chi^2 = 17.0$; RMSEA = 0.24; and CFI = 0.826. These results indicate that the second order CFA model does not fit the data well. To improve the model fit, diagnostic measures were performed in which the modification indices (MIs) were

examined to identify the largest MI for the covariance of the error terms. To reduce the amount of chi square, the error terms with the largest MIs were allowed to covary due to presence of high correlations among the variables.

While the covariance of the error terms were supported technically by the CFA output, it was theoretically reasonable to expect a high correlation between the variables in the CFA model as they all measure a single construct (OL). Thus, the error terms that are not fully explained by the latent factors were covaried as depicted in Figure 2. Results of the modified second order CFA model fit the data reasonably well.

The overall model chi square (χ^2) statistic is 17.56 with 13 degrees of freedom. The *p*-value for the revised model is 0.175, which is non-significant at 0.05 (type 1 error rate). Other fit measures provide additional support to the goodness of fit of the revised model: RMSEA = 0.044 and CFI = 0.998.

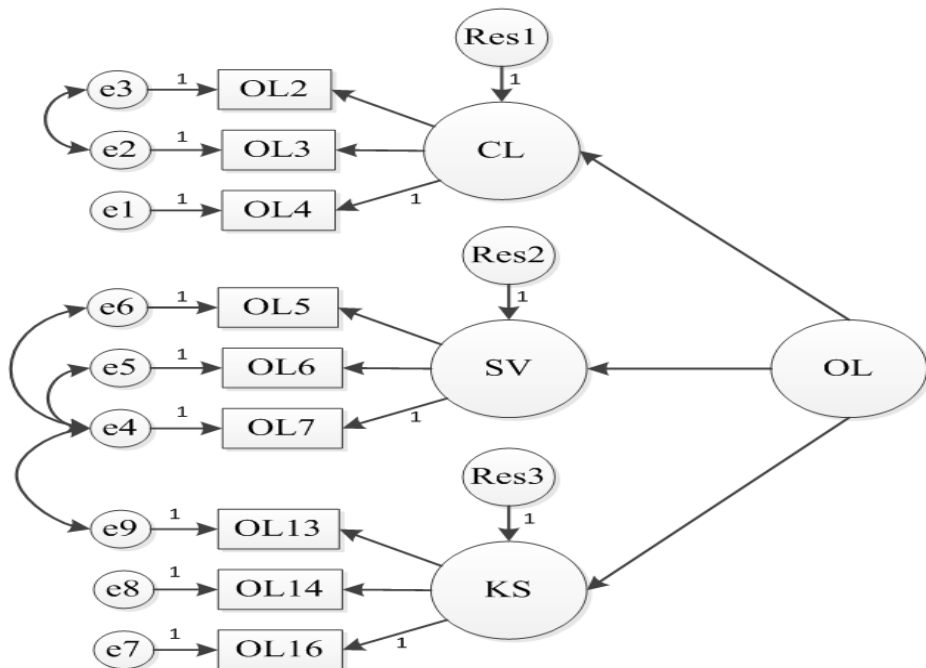


Figure-2. Revised Model Specifications for OL

The loading estimates from the measurement item to the respective constructs range from .65 to .99 and are all significant at $p < 0.01$. These results confirm the identification of OL as a higher order composite representation of three factors: CL, SV and KS.

The second order CFA model for organizational performance (OP) hypothesizes that financial performance (FP) and non-financial performance (NFP) reflect one single construct of OP. The model shows two types of endogenous variables: observed, comprising six indicators, and unobserved comprising of FP and NFP. The unobserved exogenous variables are the higher-order construct (OP), six error terms, and two residuals.

Table-3. Factor Loadings for CFA (OP) Model

Indicator	Path	Construct	Factor Loadings		S.E.	t-value	p-value
			Unstandardized	Standardized			
FP	<---	OP	1.00	.88	— ^a		
NFP	<---	OP	.64	.92	.20	4.00	***
OP3	<---	FP	1.00	.66	— ^a		
OP2	<---	FP	.88	.78	.16	5.58	***
OP1	<---	FP	.92	.59	.12	5.12	***
OP6	<---	NFP	1.00	.73	— ^a		
OP5	<---	NFP	.67	.89	.12	3.34	***
OP4	<---	NFP	.72	.84	.11	6.55	***

Notes: —^a Fixed parameter; S.E = Std Error; *** Significant at $p < 0.001$

For model identification, the value of $p^* = 21$, while $q = 13$ (5 regression weights and 8 variances), hence $df > 0$. The model is therefore over identified. Results of the initial estimation of the second order CFA model for OP indicate a strong model fit a $\chi^2 = 16.47$ (8); $p > 0.05$. The non-significant value of p implies that the sample covariance matrix is not equal to the matrix implied by the CFA model, and thus the null hypothesis is rejected.

Other indices also support the second order CFA model: normed $\chi^2 = 2.0$; RMSEA = 0.062; and CFI = 0.985. These absolute and incremental indices provide a robust statistical fit of the model to the data. Moreover, all factor loadings are significant at $p < 0.01$ (Table 3). These results suggest that organizational performance (OP) is a higher order construct modeled by non-financial performance (NFP) and financial performance (FP).

5.4. Hypotheses Testing

In the third hypothesis, it was predicted that OL will have positive relationship with OP. From Figure 3, the parameter for OL-OP link is both positive and significant as hypothesized in this study ($t = 2.619, p < 0.01$). Thus, this finding also provides empirical support for H_3 that OL is a significant predictor of OP.

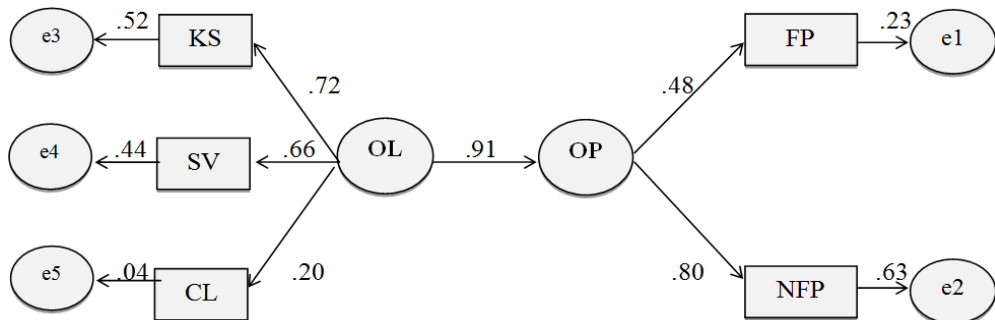


Figure-3. Path Diagram for Structural Model with Standardized Loadings

We also examined the magnitude and significance of the factor loadings. Table 4 provides the values of the path coefficients and t -values of the factors. The table shows that all factor loadings are significant ($p < 0.01$), and all except one factor loading are above .50. The factor

with a low loading estimate is CL which loads on OL at .20. However, examination of the standardized residual covariance for CL show that all correlations are close to zero, and therefore, the low factor loading for CL is not considered a serious problem given its high significance. Therefore the hypotheses H_{1a} to H_{1d} are supported.

Table-4. Factor Loadings and *t*-values for Structural Model

Model Relationship	Parameter estimates		t-value
	Standardized	Unstandardized	
OL → OP	.91	2.04	2.62**
OP → FP	.48	1.00	— ^a
OP → NFP	.80	1.86	5.77***
			<i>Continue</i>
OL → CL	.20	1.00	— ^a
OL → SV	.66	2.44	2.87**
OL → KS	.72	3.22	2.88**

Fit Indices $\chi^2(17) = 37.284$; $\chi^2/df = 2.19$; CFI = 0.978; RMSEA = 0.066.

Notes: —^a Fixed parameter; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

6. CONCLUSION

In this study we examined the influence of OL on the OP of SMEs. OL in this study was conceptualized from a cultural perspective which is rooted in an interpretive approach to human behavior. The perspective is based on the notion that “members of organizations create a set of inter-subjective meanings that can be assessed by artifacts such as symbols, metaphors, ceremonies and myths, and that are tied together by values, beliefs and emotions” (Pawlowsky-Glahn and Egozcue, 2001).

The results of empirical analysis of this study provide further evidence that OL has a positive influence on OP, which encompasses both economic and non-economic measures. This finding is consistent with previous empirical studies such as Baker and Sinkula (1999), Calantone *et al.* (2002), Farrell (1999), Farrell and Oczkowski (2002), Garcia-Morales *et al.* (2006), Keskin (2006), Wang (2008), Santos-Vijande and Álvarez-González (2007), Sinkula *et al.* (1997) and Ussahawanitchakit and Chaveerug (2008).

The results of this study are also congruent with other empirical studies which use a process-based measure of OL that distinguishes five stages of the learning process: information acquisition, information dissemination, shared interpretation, and organizational memory. These studies include Berchicci and Tucci (2010), Chou *et al.* (2007), Gonzalez-Padron *et al.* (2010), Sánchez *et al.* (2010), and Tippins and Sohi (2003).

The findings of this study also concur with early theoretical research that associates learning with improved performance. For instance, Argyris and Schon (1978) argue that OL based on experience reflects improved task performance. In the same line, Etheredge and Short (1983) posit that learning leads to increased intelligence, which is responsible for increased effectiveness of behavior. Research also shows that learning increases the capacity of an

organization to perform better. Similarly, theorists such as Day (1994), Slater and Narver (1998) and Tsang (1997) hold that performance is enhanced by the ability of organizations to learn.

In sum, this empirical study has shown that OL is an important component of organizational capabilities that are required to achieve company's success. It reveals the organizational potential to achieve better performance through creation of value to customers, suppliers and other stakeholders.

7. CONTRIBUTION AND RECOMMENDATION

The findings of this research provide useful insights for managers and entrepreneurs who seek to improve their bottom-line performance by leveraging the benefits of information-based economy. The implication is especially essential for SMEs which operate in a highly competitive and technology-driven industry such as ICT industry. In line with this implication, several recommendations are made.

As senior executives of their companies, the managers undertake the responsibility to foster a learning climate through developing and facilitating managerial support for building the relevant knowledge in the organization. They should promote the acquisition of new knowledge through the development of new ideas, empowering employees to make decisions and take risks.

The executives should also enhance the culture of knowledge sharing within the firm. For example, informal mechanisms can be set up to encourage the sharing of best practices among employees of different departments. Team work may also be an important component of knowledge sharing whereby employees are made to communicate and exchange their views freely while working on particular projects. Additionally, executives of SMEs need to create a climate of openness and experimentation. This can be achieved through creating rewards to innovative ideas and risk-taking endeavors. This way, the firms will cultivate a culture of accepting different types of opinions and experiences and avoid egocentric attitudes where one person's opinion, beliefs or experience is considered superior to others.

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Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

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