

# An Empirical Study on the Structure of Organizational Learning and Organizational Performance

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## Abstract

*This paper does an empirical study on the structure of organizational learning and organizational performance based on the core competitive capability view. The structure provides a path that how is the organizational learning interdependent with innovation, market, leadership and executive capacity to attain high performance. Analyzing the data collected from the Company Knowledge Management and Operation Survey (CKMOS), this study uses the factor analysis, correlation analysis and multiple regression analysis to examine the model. The results show that: (1) There is positive correlation between the organization learning and the organization performance. (2) The core competitive capabilities (innovation, market, leadership and executive capacity) and organization learning (acquisition, processing, storage, and application of knowledge) all have positive relations with the organization performance. (3) In different stages of the organization learning process, different core competitive capabilities have different impacts on the organization learning.*

**Keywords:** Core competitive capacities, Organizational Learning, Organizational Performance

## 1. Introduction

Organizations operating in today's rapidly changing and competitive business environment find it necessary to constantly strengthen the competitive capacities to ensure long-term survival. Applying the concept of "learning" to organizations is one of the most fashionable solutions to this challenge [1, 2]. Both organizations and individuals need to learn to assimilate the added information flows created by an accelerated rate of change in the environment and by the increase in information communication. This issue prompted the focus on the design of organizations capacities that will allow implementation of effective and efficient learning processes. So, in the organization learning process, the exploration of the relationship between the organization learning and the competitive capacities and how both these two aspects were combined to facilitate the organization performance has

been valuable.

Research employing a learning perspective has found that learning impacts the performance of the firm and moderates the effect of other variables on firm performance in a number of ways. Organizational learning has been found to enhance the survival and effectiveness of acquisitions, diversifications and foreign entries; to increase customer orientation; and to facilitate innovation [3,4].

## 2. The Conceptual Structure

The conceptual structure conceived recently has filled the gap. The theoretical structure is established as shown in the Figure 1 [4]. The conceptual structure is based on the view of synthetical capacities to study the relationship among the organization learning, competitive capacities and organization performance.

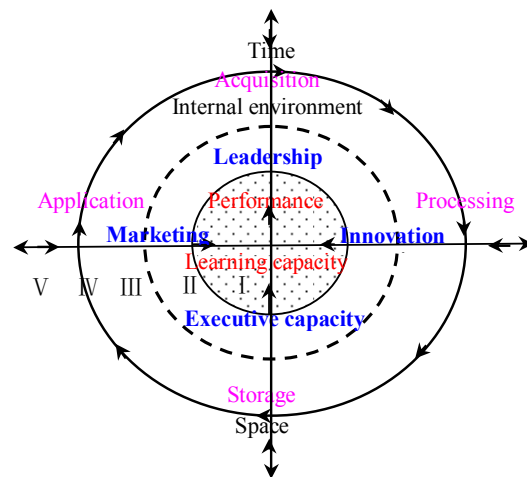


Figure 1. A conceptual organization learning structure

The structure uses the core learning capability as the clue and provides a path that how is the organizational learning interdependent with innovation, market, leadership and executive capacity to attain high performance. As we can see in the Figure 1, the core is the organization performance circle. The organization learning capacity impels the organization performance, the organization performance and the organization

learning capacity system is the core of the target model. It is the core of the target structure.

The second circle in Figure 1 is the capacity circle. The capacity level includes some abilities, which are closely linked with the organization learning capacity. They are the innovation capacity, the marketing capacity, executive capacity and the leadership. These four capacities have been discussed in last section. Many scholars have discussed their effect on the relationship between the organization learning and organization performance.

In Figure 1, between the first core circle and the second level is the inner level. The inner level is the organization interior learning environment [4].

The outer circle is the learning circle represents the cyclic process of the organization learning including knowledge acquisition, processing, storage, and the application stages. This study selects the representative four processes proposed by Argyris: Acquisition, Processing, Storage, and Application [1,5].

Out of the circle is the external environment. It includes factors of the organization learning. We mainly select the two representative aspects: time (x-axis) and space (y-axis) [5]. With the time and space changing, the organization learning begins to circulate with the strengthening the various capacities.

This model provides new perspective for the organization learning perspective, and combines the organization learning process with the organization performance by the intermediate core capacities: innovation capacity, the marketing capacity, executive capacity and the leadership. This study will further analyze the model with exploring the relationship among the organization learning, competitive capacities and the organization performance.

### 3 Hypotheses

Organizational learning has been found to enhance the core competitive capacities such as the survival and effectiveness of acquisitions, diversifications and foreign entries, to increase customer orientation, and to facilitate innovation [5]. However, in the whole, these aspects are very fragmentary and do not form a systematic research on the competitive capacity in the organization learning process [6]. So to demonstrate the relationship between the organization learning and the organization performance based on the competitive capacities systematically, this study proposes the hypothesis  $H_1$ .

$H_1$ : The organization learning factors (acquisition, processing, storage and application) have significantly relationship with the organization competitive capacities (the innovation capacity, the marketing

capacity, executive capacity and the leadership).

Concur with the acceleration of market and technological changes, explosion of available market data, and importance of anticipatory action, a superior capability to learn is critical because of its complexity, usefulness (for numerous activities, from product development to customer service) and difficulty to imitate [7,8]. Organizational learning capability is not only the capability to learn but also the capability to cultivate other abilities and it can be divided into mainly the following four facets: the innovation capacity, the marketing capacity, executive capacity and the leadership in this study. They are interdependent with the learning capability and become an important way to attain the high organization performance [3,4,8,9,10]. So we propose the hypothesis  $H_2$ .

$H_2$ : The organization competitive capacities (the innovation capacity, the marketing capacity, executive capacity and the leadership) have significant effect on the organization performance.

Some empirical study have presented and tested a model of organizational performance improvement based on the impact of organizational learning culture. Other researchers found that organizational learning facilitates the implementation of information systems and business process re-engineering [11]. The literature connects the organization learning with the performance in different ways such as sub-systems of learning and organizational learning culture. So based on these research, this study proposes the hypothesis  $H_3$ .

$H_3$ : There are significant correlations between the organization learning and the organization performance.

### 4 Research Method

#### 4.1 Data

This study draws the data from the database of the Company Knowledge Management and Operation Survey (CKMOS). The survey was conducted by School of Management in Harbin Institute of Technology. The survey refers to 164 enterprises in China and the people answers the questionnaire are the MBA and EMBA students who are working in the enterprises and governments.

#### 4.2 Measures

As we can observe from the model in Figure 1, there are three circles representing the organization performance, core competitive capabilities, and the organization learning from the inner circle to the outside circle. So there are also three sub-measurement

systems in this study: the organization performance sub-measurement system, core competitive capabilities sub-measurement system, and the organization learning sub-measurement system. They include 5 items, 21 items, and 19 items respectively. These items were selected from the three parts of the survey: the organization performance, enterprise capacities, and the organization learning respectively. This study got the organization performance variable, four core competitive capabilities variables, and the four organization learning variables. The KMO values are respectively 0.88, 0.9, and 0.827. This indicates that the recycled data is suitable for factor analysis. And the first main factor can explain more than 70% information of the different indexes. To ensure the reliability of the questionnaires, this study uses Cronbach's  $\alpha$  coefficient to test reliability ( $\alpha > 0.7$ ) of the questionnaires. The Cronbach's  $\alpha$  coefficient of the measurement system is 0.9113. This indicates that the variables of various factors have good internal consistency. The Cronbach's  $\alpha$  coefficient of the measurement system is 0.8485, which proves that the measurement system has a high reliability. In addition, because the items of the survey all root in the formal mature empirical study, which insures the validity of the items [12].

## 5. Analysis and Discussions

### 5.1 Correlation analysis

Having got the factors of the competitive capabilities, organization learning and the organization performance, this study explores the relationship between the competitive capabilities and organization learning. The correlation analysis results are shown in Table 1.

Table 1. Correlation analysis

	Acquisition	Processing	Storage	Application	Performance
Leadership	<b>0.445</b> (**)	0.221 (*)	0.230 (*)	0.229 (*)	0.447 (**)
Execute	0.060	0.057	<b>0.450</b> (**)	0.243 (**)	0.258 (**)
Market	0.258 (**)	0.173	0.275 (**)	<b>0.234</b> (**)	0.400 (**)
Innovation	0.246 (**)	<b>0.234</b> (**)	0.207 (*)	0.041	0.346 (**)
Performance	0.344 (**)	0.265 (**)	.502 (**)	0.272 (**)	1

\* Correlation is significant at the 0.05 level 2-tailed).

\*\* Correlation is significant at the 0.01 level 2-tailed).

The results show that there are positive correlations among the competitive capabilities (the leadership capacity, executive capacity, marketing capacities and the innovation capacity) and the organization learning factors (Acquisition, Processing, Storage, and

Application). Moreover, the result shows that: (1) the leadership competitive capacity (0.445(\*\*)), marketing capacity (0.258(\*\*)) and the innovation capacity (0.246(\*\*)) have the significant relations with the knowledge acquisition factor. (2) The leadership capacity (0.221(\*)), and the innovation capacity (0.234(\*\*)) have the significant relations with the knowledge processing stage of the organization learning, except the executive capacity and the market capacity. (3) The leadership competitive capacity (0.230(\*)), the executive capacity (0.450(\*\*)), marketing capacity (0.450(\*\*)) and the innovation capacity (0.275(\*\*)) all have the significant relations with the knowledge storage factor. (4) The leadership competitive capacity (0.229(\*)), executive capacity (0.243(\*\*)) and the marketing capacity (0.234(\*\*)) have the significant relations with the knowledge application factor. So, in the different process of the organization learning, different competitive capacities play different roles. With the organization learning process: Acquisition, Processing, Storage, and Application, the leadership, the innovation, execution, and the marketing capacities should be emphasized in turn.

The positive correlations between the competitive capabilities and the organization learning have proved the relations of the inner capacity circle and the outer organization-learning circle. This provides some support for the model and shows that there are mainly the systematic relationships between the competitive capabilities and the organization learning. So the  $H_1$  is proved.

### 5.2 Multiple regression analysis

For a deeper understanding of the relationship between the organization learning and the organization performance, this study makes a multivariate regression analysis to give in-depth analysis, which proves that the effect of the organization learning and the organization capacities on the organization performance.

After multiple regression analysis, the results in Table 2 show that there are significant positive regression coefficients. This notes that there are significant positive correlations between the four capacities and the organization performance, between the organization learning and the organization performance. This is consistent with the results of the relationship among the organization learning, organization capacities and the organization performance in Table 2. The data in the last row and column of the Table 2 prove the hypoesthesia again.

Table 2 Multiple regression analysis			
Dependent variable— Independent variable	Regression analyses		
	Beta	Sig.	R <sup>2</sup>
Organizational Performance—			0.654
Leadership	0.446	0.000	--
Execution	0.264	0.000	--
Market	0.409	0.000	--
Innovation	0.358	0.000	--
(Constant)	-0.07	0.243	
Organizational Performance—			0.697
Acquisition	0.350	0.000	--
Processing	0.284	0.000	--
Storage	0.521	0.000	--
Application	0.227	0.000	--
(Constant)	0.003	0.963	--

According to the regression coefficients in Table 2, we could clearly see the relationship between the organization competitive capacities and the organization performance. The leadership capacity has the strongest effect on the performance. Then the market capacity, innovation capacity, and execute capacity follows the leadership capacity. So, the H<sub>2</sub> can be proved. The results show that the leadership capacity should be emphasized to be cultivated in the process of organization learning. By the same token, the organization learning factors have significant positive effect on the organization performance. The Storage factor has the strongest effect on the organization performance. Then the Acquisition, Processing, and Application follow the Storage factor. The H<sub>3</sub> can also be demonstrated. That result describes that the Storage is the most important organization learning process for the organization performance.

## 6. Discussions and Conclusions

The result of proving the H<sub>1</sub> shows that there are positive relationships between the competitive capabilities (the innovation capacity, the marketing capacity, executive capacity and the leadership) and the organization learning (Acquisition, Processing, Storage and Application). Different competitive capacities play different roles in the process of the organization learning. With the organization learning process: Acquisition, Processing, Storage, and Application, the managers in the enterprises should emphasize on the leadership, the innovation, execution, and the marketing capacities in turn. That means that if the organization is dealing with the knowledge acquisition stage of the organization learning, the managers should

pay more attention to cultivate the leadership capacity, marketing capacity and the innovation capacity. If the organization is in the processing stage of the organization learning, the managers should pay more attention to cultivate the leadership capacity and the innovation capacity. Moreover, if the organization is dealing with the knowledge storage stage of the organization learning, the managers should pay more attention to cultivate the marketing capacity, leadership, the executive capacity, and also the innovation capacity. Thirdly, if the organization is in the application stage of the organization learning, the managers should pay more attention to cultivate the leadership capacity and the innovation capacity. Finally, if the organization is dealing with the knowledge storage stage of the organization learning, the managers should pay more attention to cultivate the marketing capacity, the innovation capacity and leadership. So, in the different process of the organization learning, different competitive capacities play different roles. With the organization learning process: Acquisition, Processing, Storage, and Application, the leadership, the innovation, execution, and the marketing capacities should be emphasized in turn. This would be useful for the managers to make different guidance to facilitate the organization learning by strengthening the different competitive capacities of the people in the organization.

Furthermore, the effect of the organization learning and organization competitive capacities on the organization performance has been explored by the multiple stepwise regression analysis. The results show that the organization competitive capacities (the innovation capacity, the marketing capacity, executive capacity and the leadership) have significant effect on the organization performance. On the one hand, the leadership has the strongest effect on the organization performance, and then the marketing capacity, innovation capacity and the execution capability do. The results show us that the organizations can improve their organization performance by facilitating the leadership capacity in the organization. And other capabilities should also be strengthened to achieve better performance. On the other hand, this study demonstrates that the organization learning factors: acquisition, processing, storage and application have significant positive effect on the organization performance. The Storage is the most important part of the organization learning among these four factors, and then are the Acquisition, Processing, Application. The result shows us the different importance of the organization learning factors for the organization performance. The organizations could improve their performance by concentrating on the more important factors of the organization learning and the effective

competitive capacities in the organization to achieve better performance.

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