The Study of Social Capital, Organizational Learning, Innovativeness, Intellectual Capital, and Performance

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ABSTRACT

Through an empirical study, research has obtained the following results: (1) Social Capital is not significantly impacted with group dynamics or later with organizational innovativeness; yet, stronger social capital will bloom more organizational learning. (2) Group dynamics significantly influences the expanding of organizational learning and innovativeness, which indicates that the interaction of groups depict positive learning and innovativeness. (3) The result of organizational learning will significantly affect the level of innovativeness; thus, learning and innovation depict a relation. (4) The level of organizational innovativeness will significantly affect the degree of accumulating intellectual capital and influence organizational performance. (5) With increasing organizational innovativeness, organizational performance becomes altered, showing us that the company must emphasize “innovation”. Ultimately, the company develops his own unique competitive advantages.

INTRODUCTION

“Innovation” is one of the most important issues in all industries. With the development of technology, diversity of products and cost problems are not the key factors in the competition of companies. Therefore, to affirm a competitive advantage, the company must absorb and create new knowledge for innovating. Enterprises are currently using systematic organizational learning in order to integrate knowledge, which is the advantage of organizational innovation. In the process of organizational innovation, the interaction of individuals and groups will affect the learning condition in the organization and become significant variables.

This study is simply divided into two parts: One is to research how the interacting condition of people and groups affect the organizational learning and innovativeness. The other is to confer the organizational performance, which focuses on the affection of innovativeness and intellectual capital.

LITERATURE REVIEW

Social Capital

Social capital was used in community research (Jacobs, 1965) and in family relationships and later extended to the business area. In the exercising of the organization, employees need to interact with each other and constantly make an affect on each other, in order to accomplish job goals.

Nahapiet and Ghoshal (1998) defined social capital as being a total potential resource among the related networks of individuals or groups. It is also divided in the following three constructs:

1. Structural Dimension

   It’s a network of suitable relations as a whole, which is between people and an organization. These constructs can be divided into three parts, which are network ties, network configuration, and appropriable organization. Those called “network ties” can provide the acquisition of resource and reduce time, establishing information to collect a more necessary one. “Network configuration” refers to the nature of linkage, layer, and tight squeeze. Lastly, “appropriable organization” is an organization based on specific reasons.
2. Cognitive Dimension

This dimension has the means of resource facilitating and mutual relationships among the groups. It’s separated “shared codes and language” and “shared narratives.”

3. Relational Dimension

It’s the relation in which people own and can affect another’s behavior sufficiently. It's divided into four parts: Trust, Norms, Obligations, and Identification. As a result, it focuses on the establishment and interaction of long relationships.

Group Dynamics

Robbins and Finley (1995) believe that this group is placed between the system of the individual and the organization. Group dynamics is the condition of doing something with a crowd of people together. It is in the organization that three layers exist—individual, group, and organization. As previously stated, social capital is at the individual level, while group dynamics is at the group level.

The Father of Group Dynamics, Lewin, thought that the group is powerful, positive, active, and needs to be catalyzed to excel. He used “dynamics” to emphasize the situation of the complex mutual influence between its members. Scholar mentioned five parts of group dynamics, including the establishment and development of the group, the norm and condensation of the group, the role, the interaction pattern, the decision way, and the group within the group. There are numerous theories in the research area of group dynamics. It can be separated as “System Theory,” “Function Theory,” “Interaction Theory,” and so forth. System theory shows that groups are a system and that every department of the system relies on each other to have mutual goals. Function theory shows emphasizing the achievement of the goal, and the integration and exercising of the group. Finally, interaction theory observes that every behavior in the group is interacting to makes things occur.

Organizational Learning

The age of globalization competition remains unknowledgeable, with everything needing change and innovation. Competitive business gradually returns from invisible knowledge to visible capital. How to use knowledge then depends on organizational learning. By receiving abundant recognition from ourselves or others’ experiences, those can modify it to the ability of doing things better. As an end result, the main function of organizational learning is delivering and maintaining the experiences. One way to achieve organizational learning is to establish the learning organization. It should consist of five ways- Personal Mastery, Improving Mental Models, Systematic Thinking, Building-Shared Vision, and Team Learning. This means the company must connect many individuals’ learning, break-through the upper limits of individual learning, cultivate open and systematic thinking, and work diligently to realize mutual goals. In this way, the company can use a successful organizational learning model to facilitate the ability to create advantages for the future.

Individual, group, and organization are the three levels in organizational learning. Crossan et al (1999) figured out 41 constructs in organizational learning: (1) Intuiting: Individual level; (2) Interpreting: Individual level; (3) Integrating: Group level; (4) Institutionalizing: Organizational level. Schwannt and Marquardt (2001) insisted organizational learning must possess individual learning. In accordance with this study, organizational learning bases itself on individual learning that doesn't affect total individual learning. The organization is expected to share, create, spread, and expand their knowledge, connecting from groups to organization. This process is called “organizational learning.”

Organizational Innovativeness

Innovativeness is a kind of recognition of changing attitude or innovation (Feaster, 1968). Tidd, Bessant, and Pavitt (2001) also conveyed that innovation is not only good thinking, it needs to be realized by actual action. Therefore, innovation is comprised of original concepts, innovativeness of its members, and real products or services.

Innovation separates into two parts. One part is the “proactive innovation,” and the other part is the “reactive innovation.” Proactive innovation shows that innovation comes from the condition of business and develops from the ability or schedule of the organization. It doesn’t materialize from competitive pressure. Further, reactive innovation means that innovation begins from competition. Businesses encounter the pressure of the environment or competitors
and feel forced to innovate. Therefore, this study focuses on “proactive innovation.” It confers directors and employees will continue to accept new ideas. Lastly, these new concepts will become the cradle of developing managerial or technical innovation.

**Intellectual Capital**

The opinions about intellectual capital weren’t completely in concert. Brooking (1996) thought that the intellectual capital in the organization should include the market and focus on humans, intellectual property, infrastructure, and so forth. Edvinsson and Malone (1997) insisted that the most important components of intellectual capital were human capital and structural capital. Stewart (1997) further replenished that customer capital should be included. Moreover, intellectual capital has been comprised of human capital, customer capital, and structural capital. Ultimately, every industry worked effortlessly to use Intellectual capital in attaining organizational innovative performance.

1. Human Capital

“The most important capital is human,” stated Bontis’ in his point of view (2002). Human Capital depicts the accumulation of an individual’s knowledge. In the organizational system, every employee is the unit of human capital—with skills and capacity that connect every employee. However, everyone’s wisdom doesn’t belong to the organization. When leaving the organization, knowledge leaves as well.

2. Customer Capital

What employees do is repetitious every day. The organization develops the knowledge-connected market and customer relationship (Bontis et al., 2000). Customer capital is valuable and is easily used to track the phenomenon as market share and customer satisfaction. It is very difficult to manage the invisible capital, however.

3. Structural Capital

Roos et al. (1997) contended that structural capital still existed in the company when employees had left the office. Structural capital includes all in-human knowledge in the organization—data house, routine business, and other areas in the company. Further, Sullivan (2000) shows an organizational structure, a performance and managerial way that should include structural capital. It is knowledge that cannot be purchased or kept completely in the organization.

**Organizational Performance**

Organizational performance is the measurement of goal achievement in efficiency and effectiveness and is used to control and be maintained in a timely fashion (Robbins, 1996). Venkatraman and Ramanujam (1986) depicted a complete construct in the measurement of it:

1. Financial Performance- the common indicator, which measures the level of achieving economic goals in the organization and used by traditional researches.
2. Operational Performance- the indicator used for market share.
3. Organizational Effectiveness- the indicator used in the strategic management or organizational theory such customer satisfaction.

Other than finance, performance is mainly separated into financial indicators and other indicators. Commonly, financial indicators are always used to measure organizational performance, while other indicators of finance emphasize the employee side or organizational side. The assessment of organizational performance is divided into subjective performance and objective performance. Objective performance, especially, is more traditional and quantitative, which is a common indicator in general research. Dess and Robinson (1984) indicated that objective assessment data may easily be forgotten but using the subjective performance for a substitution so that it will be remembered. Delaney and Huselid (1996) also pointed out how to judge an organization in achieving goals, which need to add some recognized indicators to measure the performance. By using empirical research, objective performance is more effective than subjective financial indicators.

**The Relationship among Constructs**

Crossan et al (1999) mentioned that organizational learning exists in three levels: individual, group, and organization. Robbins (1998) defined group as the set of affecting; it depends on two or more people in order to achieve
some goal. Feldman (1998) also believes that group is comprised of three or more people with similar characteristics—interaction, consciousness, and belief. Group dynamics emphasizes the active process, which is the dynamics in the group through interacting. In accordance with this information, group’s most important factors are human and interaction. The core concept of social capital then relies on the relationship of needed cooperation and trust among the people.

Through the interaction and cooperation of the people, all organizations can have a complete atmosphere of learning. Gherardi and Nicolini (2000) also suggested that organizational learning is the result of interacting among people in certain cultures and environments. Group level is above the individual level. It uses system group and group dynamics to facilitate and help learning in the organization. Wenger (1996) also defined that organizational learning is the process of exercising in the formal group and in the informal group. In order to research the relationships among the three levels, constructs were made from the following hypothesis:

**H1: Social capital will significantly influence group dynamics.**

**H2: Social capital will significantly influence organizational learning.**

**H3: Group dynamics will significantly influence organizational learning.**

In the 21st century, social capital became viewed as a tool, which facilitates resource exchange, creates intellectual capital, increases learning power, and promotes product innovation. At the same time, it’s also one of the core concept in maintaining competitive advantages (Alder & Kwon, 2002). In researching the role of social capital in the open level of the organization, Walker et al. (1997) indicated social capital as a way of reinforcing behavior standards in the company. Therefore, the moderate quality and quantity of social capital is the good catalyst in organizational innovation. In order to research the relationship of social capital and innovation, the following hypothesis was made:

**H4: Social capital will significantly influence organizational innovativeness.**

When group members interact to produce dynamics, the whole group starts activation. Through this function, members have more ideas in solving problems and facilitating innovation. When the norms are condensed and have too much power, one questions whether or not this is a result of the restriction of reinforcing innovation in the organization? In the model of group dynamics, does the relation of people integration, communication, and problem-solving increase the innovative level in the organization? The fight of these two powers will make the relationship between group dynamics and organizational innovativeness more confused. Therefore, the following hypothesis was developed:

**H5: Group dynamics will significantly influence organizational innovativeness.**

Organizational learning reflects the change of the environment and proceeds with the shift of flexibility, so it’s able to promote innovative effectiveness and performance (March 1991). By completely increasing the organizational learning ability, it would make the efficiency, effectiveness, and ability much better (Dodgson, 1993). Hurley and Hut (1998) thought that learning is the guide of innovation. Organizational learning changes from both sides of behavior and innovation. Yeung et al (1999) clearly pointed out the ability of learning in the organization that influences the ability of the innovation. Lukas and Bell (2000) emphasized that organizational learning was a kind of process found in innovating, researching, and designing. Therefore, this study developed the following hypothesis:

**H6: Organizational learning will significantly influence organizational innovativeness.**

With invisible capital, Johnson (1999) views intellectual capital as a set of reinforcing values, wisdom, and innovation. Because of innovation, the set of knowledge in organizational intellectual capital was produced. This study concludes that the relationship between Intellectual Capital and organizational innovativeness is two-way; therefore, they complement each other. This study made the following hypothesis to research their relationship:

**H7: Organizational innovativeness will significantly influence intellectual capital.**

Innovation not only makes organization more suitable and more likely to survive, but also increases the business performance. Kim and Mauborgne (1997) also mention that innovation’s main function is to make the company more unique in the competition; the company has more of a chance to stay ahead. Hence, this study inferred that the innovative level in the organization is one factor, which influences organizational performance. Thus, the following hypothesis was made:

**H8: Organizational innovativeness will significantly influence organizational performance.**

Bontis (2000) researched the relationship between Intellectual Capital and organizational performance. Some
parts of Intellectual Capital had significant influence on organizational performance. Results depict that Intellectual Capital was invisible capital and based on knowledge and materialization capital (Dzinkowski, 2000). Consequently, the nature of Intellectual Capital was knowledge. In the empirical research, knowledge through learning had no significant relationship on organizational performance. Knowledge through innovation significantly influenced organizational performance. Will the product from knowledge and innovation-intellectual capital facilitate the growth of the organizational performance? This study made the following hypothesis:

**H9: Intellectual Capital will significantly influence organizational performance**

**RESEARCH DESIGN AND METHODOLOGY**

**Conceptual Structure**

According to the above discussion, the conceptual structure was developed as follows:

![Conceptual Structure Diagram](image)

**Questionnaire Design and sampling**

This study adopted five-point Likert scale. Based on this discussion, forty-five-item survey questionnaire was developed. The questionnaire was divided seven parts. Except intellectual capital having nine questionnaires, other constructs have six. All questionnaires reference former literatures, including SC- Yli-Renko et al. (2001), Kale et al. (2000), Tsai and Ghoshal (1998); GD- Chi-Tung Yang (1992); OL- O Neil (1995); OI- Hurley and Hult (1998); IC- Bontis et al. (2000); OP- Kaplan and Norton (1996) and Jeng- Sin Jiang (2000).

The manufacturing in the Hsinchu Science Park and the Tainan Science Park were random sampling through e-mail and post questionnaires. Target populations were the managers and people in the workplace in manufacturing. This study sent questionnaires from October of 2004 to January of 2005. There were 160 samples retrieved, with an entire response rate of 40 percent.

**RESEARCH RESULTS**

**Factor analysis and reliability test**

To refry the dimensionality and reliability of each construct, purification processes including factor analysis and reliability analysis are conducted in this study. Through factor analysis, this study got the following results. First, Social Capital can divide two factors, which are “Work Interaction” and “Private Interaction”; Group Dynamics, Organizational Learning, Organizational Innovativeness, and Organizational Performance all only have one factor respectively; Intellectual Capital has two factors, which are “Human Capital” and “Organizational Capital.” The standard of selecting variables is factor loading more than 0.6. Through reliability test, this study found their Cronbach’s α were more than 0.65, which represented that these questionnaires have enough reliability.
Interrelationships among Social Capital, Group Dynamics, Organizational Learning and Organizational Innovativeness

First, Social Capital will not necessarily conduct higher group dynamics (Canon \( R^2 = 0.304, F= 3.31806 \)). Further, it’s clear that interrelationships don’t necessarily exist between Social Capital and Group Dynamics. However, this finding does not provide sufficient support of H1. Second, Social Capital will conduct higher Organizational Learning (Canon \( R^2 = 0.35, F= 4.11995 \)). Therefore, it’s clear that interrelationships do exist between Social Capital and Organizational Learning. This finding provides sufficient support of H2. Third, Group Dynamics will conduct higher Organizational Learning (Canon \( R^2 = 0.543, F= 5.4738 \)). Hence, it’s clear that interrelationships do exist between Group Dynamics and Organizational Learning. This finding provides sufficient support of H3. Fourth, Social Capital will not necessarily conduct higher Organizational Innovativeness (Canon \( R^2 = 0.239, F= 2.12247 \)). Thus, it is clear that interrelationships do not necessarily exist between Social Capital and Organizational Innovativeness. This finding will not provide sufficient support of H4. Fifth, Group Dynamics will conduct higher Organizational Innovativeness (Canon \( R^2 = 0.461, F= 4.41354 \)). Therefore, it is clear that interrelationships do exist between Group Dynamics and Organizational Innovativeness. This finding provides sufficient support of H5. Lastly, Organizational Learning will conduct higher Organizational Innovativeness (Canon \( R^2 = 0.507, F= 4.32662 \)). Therefore, it is clear that interrelationships do exist between Organizational Learning and Organizational Innovativeness. This finding provides sufficient support of H6.

Interrelationships among Organizational Innovativeness, Intellectual Capital and Organizational Performance

This study identifies the Organizational Performance factors as the dependent variables (Y) and the factors of Organizational Innovativeness (X1) and Intellectual Capital (X2) as the independent variables to build two regression models.

First, interrelationship between Organizational Innovativeness and Organizational Performance does exist (Adj \( R^2 = 0.466, F= 24.163 \)). Factors of Organizational Innovativeness do have a positive impact on Organizational Performance and provide H8 support. Second, interrelationship between Intellectual Capital and Organizational Performance does exist (Adj \( R^2 = 0.563, F= 35.114 \)). Factors of Intellectual Capital do have a positive impact on Organizational Performance and provide H9 support.

CONCLUSIONS

First, the results show that high Social Capital does raise Organizational Learning. In line with the results, Gherardi and Nicolini (2000) found that Organizational Learning is the result of interacting among people. Group Dynamics raises both Organizational Learning and Innovativeness. Wenger’s (1996) results, however, insist that Organizational Learning is the process of exercising formal and informal groups, while Organizational Learning raises Organizational Innovativeness and is in line with the empirical study of Yeung et al. (1999). Secondly, this research adopts regression analysis for analyzing the interrelationships among Organizational Innovativeness, Intellectual Capital, and Organizational Performance. The results show that high Organizational Innovativeness and Intellectual Capital raise Organizational Performance and are in line with results from Kim and Manborgne (1997), who found that “innovation” is the best way to increase performance in the market.

Based on the results of this study, the following managerial implications are two points. First, in the organization, there is promotion in Organizational Learning by accumulating Social Capital and exercising Group Dynamics. Through learning, the company will encourage more innovation for companies to survive in the changing environment. Second, after innovating and collecting systematic Invisible Capital, the company will increase competitive advantage. Therefore, the system of accumulating Intellectual Capital is the key of success in the company.
REFERENCES


