

Organizational Capital, Innovation Climate, and Service Innovation Behavior

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Abstract

Along with the knowledge economy era, the concept of organizational capital increasingly receives many attentions. Many previous studies have emphasized the influence of organizational capital on innovation at the organizational level. The present study is trying to explore the impact of organizational capital on service innovation behavior and examine the mediating effect of organizational innovation climate on the relationship between organizational capital and service innovation behavior.

The researchers conduct a survey to collect data from Taiwan Top 500 service businesses based on Common Wealth magazine's survey. We expect to profoundly understand the relationships between organizational capital, innovation climate, and service innovation behaviors as well as provide meaningful implications for academics and practitioners.

Key words: organizational capital, innovation climate, service innovation behavior

1. Introduction

The competitive advantage in industries has shifted from production to services. As a result, the majority of working population is employed by service industries. The service industries in Taiwan have witnessed dramatic growth over recent years. According to figures by the Directorate General of Budget, Accounting and Statistics, Executive Yuan in 2011, by the end of the third quarter, 2010, the service industries accounted for approximately 68% of the gross domestic product in Taiwan. This number highlights the importance of the service industries in Taiwan.

All industries have to enhance competitiveness with innovations in order to cope with rapidly changing environments. In response to fast changing markets and shorter product lifecycles, all the companies in the service industries strive to innovate their services and improve their service quality so as to maintain competitiveness and market shares. Hence, service innovations are an important issue. Innovations are the tool to sustain competitive advantages of companies, as well as the prerequisite of company survival (Porter, 1990; Drucker, 1993). Any failure to invest in learning and innovations may result in slowness in keeping up with technological developments or inability to meet with customers' needs. This will lead to a loss of competitiveness in the market place (Schilling, 2002). Innovations come in

different shapes and forms but it is valuable innovations that count. This refers to the ability of an organization to create products, services and procedures and introduce such products, services and procedures to the market in the form of adaptation or commercialization (Cetro, 2003). In the service industries, first-line employees directly contact customers. Organizations can create new competitive advantage via service innovations. Innovations from employees can increase value added for companies. Wang Group, a well-known chain restaurant in Taiwan that has received countless awards, is one of the examples. Its employees are known for their innovative services. The service industries can create values with innovations and by breaking the existing market practices. Sometimes, this is related to intangible assets such as knowledge, experience, competences and ideas. The arrival of the knowledge economy means all the industries have been tilting towards the knowledge-based direction. Traditionally, tangible assets were the source of competitive advantages for companies. However, it is no longer the case. Intangible assets can also serve capital. Most of the studies on innovative behavior are based on motivations and personality traits (Amabile, 1993; Tsai & Kao, 2004; Lin & Lee, 2011). However, this paper examines whether organizational capital has any influence on innovative behavior of employees. It is an issue worthy of attention.

In the service industries, direct contacts with customers are frequent. It is critical to seek innovations and maintain consistent innovative behaviour in servicing. With extensive organizational capital as the backing, managers can create an innovative atmosphere perhaps by reinforcing the development of innovative behaviour of employees. For example, Samsung poaches high-calibre talents with attractive offers and sends its employees to over 80 countries in the world for training of local expertise. It also establishes strategic alliances and purchases technologies by paying high royalties. The purpose is to internalize core competences, local knowledge and information about competitors, and to accumulate extensive capital and transform it into innovative momentum. To create an innovative atmosphere in the company, its CEO changes the office hours and provides irregular personnel training. He even asks employees to learn how to eat with their left hands, in order to override the existing work habits and stir up innovative energies. This paper believes such an approach of utilizing organizational capital and creating an innovative climate to stimulate innovative behaviour of individuals is a worthy case study.

This paper sets out to delve into the following issues. Does the organizational capital in the service industry have effects on service innovative behaviour, in the knowledge economy? Does it influence the service innovative behaviour of individuals via an intervening role in the innovation climate?

2. Literature Review

2.1 Organizational Capital and Service Innovation Behavior

Organizational capital is the organization's capability to address the needs of the marketplace. It is the procedures with which an organization operates. It assists the knowledge sharing and transfers within an organization. It is a highly efficient method to collect, test, organize and integrate existing knowledge and disseminate it after screening and refining of such knowledge (Stewart, 1997). It includes workflow capabilities and innovation investments (Roos, 1998; Edvinsson & Malone, 1997). A structured practice is in place to control and manage knowledge so that the knowledge can deepen and become more legitimate

within the organization. When an organization stores the knowledge and uses it time and again within, the process cannot only enhance such knowledge but also better appreciate its value (Katila & Ahuja, 2002). The knowledge in the context of organizational capital tends to be used in organizational structures and regular activities. It is generally believed to be reliable and robust (Katila, 2002).

Organizational capital is able to reduce repeated mistakes, extract and utilize knowledge to cope with new situations and improve information processing capabilities. It cannot only help cost reductions but also boost customer benefits (Snell, Youndt, & Wright, 1996; Young, 2006). In fact, organizational capital stores knowledge, technologies, experiences and patents within the organization so that organization members can use and learn. This enhances the capability of employees in dealing with problems and equips them with inspirations or ideas for innovations. As a result, the organization is better positioned to cope with environmental changes (Grantham & Nichols, 1997). In the past, scholars defined organizational capital as a set of procedure for a company to resolve problems and create values (Stewart, 1997; Edvinsson & Malone, 1997). Such procedures were able to transform human capital into structured assets, in the form of knowledge and competences. Through the sharing and innovation of knowledge, employees demonstrate *service* innovation behavior so that an organization can more effectively create values for customers and meet the needs of customers. Innovation behavior refers to new concepts of working individuals, working groups or within organizations. The creation, acceleration and practice of intentions alone are beneficial to the performances of individuals, groups or organizations (Scott & Bruce, 1994). Subramaniam and Youndt (2005) prove that organizational capital has effects on innovation capabilities. The more extensive organizational capital, the higher the innovative capabilities are. Therefore, this paper develops Hypothesis 3 as follows:

Hypothesis 1. *The greater the organizational capital in the organizations of the service industries, the stronger their employees' service innovation behaviors.*

2.2 Mediating effect of organizational innovation climate

The presence of integrated and coordinated capabilities and formal, standardized procedures are beneficial to the improvement of organizational competitiveness (Lin & Shih, 2003). The repeated use of stored knowledge cannot only deepen the knowledge but also further appreciates the value of such knowledge (Katila & Ahuja, 2002). This is what organizational capital is about. Subramaniam and Youndt (2005) suggest that organizational capital has significant influence on innovation capabilities. However, some mediators may be required to enrich and properly utilize organizational capital in order to empower employees to demonstrate innovative behavior. This paper believes that organizational innovation climate is perhaps such a mediator. The formation of this atmosphere can drive employees to identify innovative information, skills or ideas in the context of organizational capital. This allows for the expression of innovative behavior in the work process.

Summary, organizational capital is the source of innovations. How can extensive organizational capital encourage more service innovative behaviour by employees? Perhaps a drive or atmosphere is required to enrich the technologies, education, professionalism, expertise and innovative capabilities of employees. The sharing and exchange of knowledge and information over the Internet is frequent. This

enables the expression of innovative behaviour in the work process. This paper believes that organizational innovation climate may be a possible driver, to empower employees to obtain innovative information, skills or ideas in the context of organizational capital. This allows for the expression of innovative behaviour in the work process.

Chiou, Chen, and Lin (2009) believe that organizational innovation climate covers organizational values and styles, work characteristics and methods, resource supports, teamwork, leadership effectiveness, learning & growth, environmental atmosphere. It entails the emphasis on human capital, innovative concepts, work methods, professional expertise, internal support, training & education, knowledge development and updated information about technologies, communication & coordination, tolerance for self-defined goals, equipment, resources and information, professional assistance, support from other industries, knowledge exchange, information gathering and sharing, interactions among colleagues and with clients, harmony with people and support from others, good work atmosphere and establishment of learning models.

These conditions are consistent with the definition of organizational capital. If extensive organizational capital can enhance the innovations and learning models perceived by employees in the workplace via this driver, new knowledge, technologies and information can be integrated into the organization for the understanding and use by employees. It may empower more innovative behaviour from employees. The formation of such a climate can provide influence in a certain social context, and contribute to the regulatory power (Shalley, Zhou, & Oldham, 2004). Studies prove that the more prominent the organizational innovation climate, the better the innovative behavior of employees (Amabile, 1988; Tsai & Kao, 2004).

Chiou et al., (2009) believe that a comprehensive structure that emphasizes on diversity within and without an organization can ensure a variety of systematic communication channels, matrix task divisions among departments, a collective sense of honor and firm belief, and focus on cooperation and team work. These seven characteristics will benefit the occurrence of innovations. In other words, the caliber of individuals and the expression of creativity are the core of innovative processes. Organizational contexts are the coordinator and mediator that contribute the final realization of innovations. This paper believes that organizational innovation climate plays the coordinating and mediating role, in the realization of innovative behavior. Hence, this paper develops the following hypotheses:

Hypothesis 2. *Organizational philosophies partially mediate the relationship between organizational capital and service innovation behavior in the service industry.*

Hypothesis 3. *Work styles partially mediate the relationship between organizational capital and service innovation behavior in the service industries.*

Hypothesis 4. *Resource supports partially mediate the relationship between organizational capital and service innovation behavior in the service industries.*

Hypothesis 5. *Teamwork partially mediates the relationship between organizational capital and service innovation behavior in the service industries.*

Hypothesis 6. *Leadership effectiveness partially mediates the relationship between organizational capital and service innovation behavior in the service industries.*

Hypothesis 7. *Learning & growth partially mediates the relationship between organizational capital and service innovation behavior in the service industries.*

Hypothesis 8. *Environmental atmosphere partially mediates the relationship between organizational capital and service innovation behavior in the service industries.*

3. Methods

3.1 Data Collection and Samples

The present study adopts the questionnaire survey to gather data from Taiwan Top 500 service business based on Common Wealth magazine's survey. It must be considered there is difficulty for sample selection that you can't easily obtain enough quantity of company samples and objectivity of research. So, the present study adopts this method of random sampling for sample selection. Sending and receiving questionnaires of every company were conducted by the researchers independently, or find out an appropriate contact unit as a dispatch agent via personal network. A manager or head of HR and employees in each company were asked to fill out the questionnaire and returned it into the attached envelopes. The questionnaires were collected by researchers in person, the contact person in unit or mailing. The present study has sent out total 660 copies of questionnaires, among which there are 322 responses. Finally, there are 254 copies of valid response after screening out invalid 68 copies, summing up valid service business samples 51.

3.2 Measures

Organizational capital refers to the structured systems and procedures to store knowledge, information and values in an organization. The present study has employed measuring scales from Subramaniam and Youndt (2005) comprising four items and using Likert's Five-Point scales from "Strongly Disagree" to "Strongly Agree". (1 represents Strongly Disagree, 5 represents Strongly Agree) A higher score on the sum of items represents a higher level of cognition on the construct.

Organizational innovation climate refers to individuals' perceptions towards innovation in the work environment. This study has employed measuring scales from Chiou, Chen and Lin (2009) comprising thirty-five items and using Likert's Five-Point scales from "Strongly Disagree" to "Strongly Agree".

Service innovation behavior refers to the degree which an individual seeks and implements creative ideas and new techniques when service is provided. This study has also employed measuring scales from Scott and Bruce (1994) comprising six items. Every question will be graded from level 1 to 5, from "Absolutely None" to "Very much", and higher grades make high level of recognition to their service innovation behaviors. As a result of confer the organizational level, the present study considers the maturity of the resource allocation and institution standard so that include the size of firm and capital as control variables in our model.

3.3 Measurement Properties

This paper conducted confirmatory factor analysis (CFA) of organizational capital, service innovation behavior and the seven dimensions of organizational innovation climate. According to table 1, the

comparative fit index (CFI) are all greater than 0.9; goodness of index (GFI) are all greater than 0.9; incremental fit index (IF) are all greater than 0.9; Root Mean Square Residual (RMR) are all smaller than 0.05. Moreover, since the standardized loadings of all the measurement items on their respective constructs were significant ($p < .05$). We concluded that the constructs exhibited convergent and discriminant validity (Montoya-Weiss, Massey, & Song, 2001).

The present study assessed construct reliability for organizational capital, service innovation and each of organizational innovation climates. All of the scales were above the suggested value of 0.7 (Bagozzi and Yi, 1988). Thus, we concluded the measures utilized in the study were valid and internally consistent.

Table 1 provides descriptive statistics and correlations for study variables. Organizational capital was related with dimensions of organizational innovation climate and service innovation behavior. Environmental atmosphere of organizational innovation climate ($r = .353, p < .05$) was related with service innovation behavior.

Table 1 Correlations

Variables	1	2	3	4	5	6	7	8	9
1.Organizational capital									
2.Organizational philosophies	.385**								
3.Work styles	.650**	.667**							
4.Resource supports	.565**	.561**	.643**						
5.Teamwork	.290*	.540**	.593**	.566**					
6.Leadership effectiveness	.340*	.782**	.628**	.570**	.685**				
7.Learning & growth	.608**	.513**	.435**	.514**	.339*	.521**			
8.Environmental atmosphere	.445**	.653**	.483**	.621**	.602**	.620**	.568**		
9.Service innovation behavior	.360**	.096	.171	.086	.012	.043	.125	.353*	

N=51; ** $p < 0.01$; * $p < 0.05$.

As shown model of table 2, the coefficient for organizational capital was significant ($\beta = .447, p < .1$). Thus, Hypothesis 1 was supported. To test the mediating effect of organizational innovation climate, the present followed three steps Baron and Kenny (1986) outlined. First, organizational capital is positively associated with service innovation behavior in model 1. Second, organizational capital was significantly associated with all dimensions of organizational innovation climate (organizational philosophies, $\beta = .286, p < .1$; Work styles, $\beta = .689, p < .001$; Resource supports, $\beta = .541, p < .001$; Teamwork, $\beta = .268, p < .1$; Leadership effectiveness, $\beta = .278, p < .1$; Learning & growth, $\beta = .506, p < .001$; Environmental atmosphere, $\beta = .405, p < .01$). Third, organizational capital and dimensions of organizational innovation climate are the forecast variables in regression analysis. The β coefficient for organizational capital decreases from .447 reduced to .345 and environmental atmosphere still was significant. The β coefficients of other dimensions are not significant. Therefore, hypothesis 2, 3, 4, 5, 6, and 7 were not supported. A comparison of organizational capital in model 1 with organizational capital in model 2 shows support for a partial mediating effect. Thus, hypothesis 8 was supported.

Table 2 Summary of Regression Analysis Results

Dependent variable	Service innovation behavior	
	Model 1	Model 2
Control variables		
Company scale	-.272	-.267
Capital	.250	.280
Independent variable		
Organizational capital	.447**	.345*
Mediation		
environmental atmosphere		.250 ⁺
R ²	.172	.221
Adjust R ²	.119	.154
F	3.261	3.267

N=51; ⁺p<.1, *p<.05, **p<.01, ***p<.001.

4. Discussion of the Results

The present study finds that organizational capital is significantly and positively correlated with the service innovation behaviour of employees. In other words, organizational capital has explanatory power over service innovation behaviour. This is consistent with existing literature (Subramaniam & Youndt, 2005). Namely, if the service industries in Taiwan have strong organizational capability, they will be able to establish comprehensive systems and constantly accumulate and strengthen their organizational capital. This will benefit the exhibition of innovation behavior from employees in the corporate world.

With regards to the mediating effects of organizational innovation climate are concerned, the empirical study shows that only environmental atmosphere boasts mediating effects on the relationship between organizational capital and service innovation behaviour. The study also finds that none of the six sub-dimensions of organizational innovation climate reports significant results. This may be due to the ease of information access and knowledge accumulation in today’s knowledge and information incentive environment. Meanwhile, comprehensive education and training offered by companies is a prerequisite of the professional work place these days. All these factors may contribute to the lack of significant results concerning mediating effects. However, an overly strived focus on innovations may result in competitive pressures among employees in terms of sales targets or performances. Therefore, the creation of the environmental atmosphere in the process of organizational capital accumulation will encourage service innovation behaviour.

5. Implications

The rise of the service industries has been a major factor to the economy in Taiwan. Innovations are critical to the survival and thriving of industry players in the fierce competition of the marketplace.

Innovation has always been the major source of competitive advantages. Innovations in product, workflow or service are all being emphasized. Therefore, this paper samples the top 500 service industry players in Taiwan for the analysis and the validation of the empirical data. The purpose is to review the relationship among organizational capital owned by companies, innovative climate in place and service innovation behaviour of employees.

The research findings suggest that organizational capital has positive and significant influence on service innovation behaviour. In other words, the better knowledge and experience can be stored and transformed in the form of databases, patents, structures, cultures and workflows in the service industries, the easier for employees to repeatedly utilize such knowledge and experience and the better connected between knowledge bodies such as employees and experts on a real-time basis. This facilitates mutual influences and sharing and benefits the exhibition of service innovation behaviour by employees. Such behaviour includes the use of patents and licenses to store knowledge and accumulate the experience of dealing with customers. This allows employees to share and learn on a real-time basis, and promotes more innovation behaviour to satisfy customers' needs. Therefore, for the practical managers in the service industry, it is essential that organizational capital is valued and the valuable organizational capital can be preserved. The idea is to rapidly share knowledge via appropriate mechanisms and assist employees to exhibit innovation behaviour that is satisfactory to customers in the service process. This is particularly important to the frontline employees in direct contact with customers because they understand the needs of customers the best. Customers can immediately feel the impact when these employees deliver an innovative approach. This will encourage customers to return and establish a unique and wonderful corporate image.

In addition, this paper finds that once the dimension of organization innovation climate is incorporated into environmental atmosphere, certain mediating effects surface regarding the relationship between organizational capital and service innovation behaviour. This finding provides a new perspective to practical managers in the service industry. Environmental atmosphere refers to the overall spatial environment in an organization that is beneficial to the expression of creativity. If a company in the service industry is equipped with the structure, system and procedures to store knowledge, information and value as its organizational capital, it will be able to create a good work atmosphere and provide an open, comfortable and autonomous workplace. This allows employees to get along beautifully, to support each other and work together. It can also inspire creativity among employees and express such creativity in the services delivered to customers. It will be helpful to the improvement of operating performances.

6. Limitations and Future Directions

The present study has several limitations that should be noted. First, samples of this study are randomly selected from large-scale companies in service industry. It raises the concern of low response rate due to the random sampling method. In addition, the difficulty of collecting organizational-level primary data imposed limits on size. Our net sample size was small, given the number of variables in our research models. Thus, a larger sample size would have given more power to the results for future studies.

Second, this is a cross-section data collection study that effectively explains the correlation between variables at a single point of time, but limits to follow up the change of time on the potential cause-effect

relationships among organizational capital, organizational innovation climate, and service innovation behaviors. Thus, a longitudinal research design on the same issue is another way to provide a dynamic perspective to understand those relationships.

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