Impact Of Knowledge Management Enablers On Competitive Advantage Of Firms - A Study An Indian IT Industry

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Abstract
The purpose of this paper is to investigate the impact of knowledge management enablers on competitive advantage of Indian IT industry. In rapidly changing business environment and increasing competitive advantage, where only uncertainty is certainty, organization success comes from continuously generating, diffusing and applying new knowledge. The main focus of this study is to investigate the impact of knowledge management enablers on the competitive advantage within an organization. In this study, Knowledge management enablers (collaboration, mutual trust, learning, centralization, formalization, T-shaped skills, attitude, creativity and information technology) are used as independent variables and Competitive advantage used as a dependent variable. A sample of 150 employees of IT firms in NCR region was taken using random sampling. The study revealed that there is a positive significant correlation between competitive advantage and knowledge management enablers particularly collaboration, mutual trust, learning, formalization, T-shaped skills, attitude, creativity and information technology.

Keywords: Knowledge management enablers, Competitive Advantage, IT industry

1. Introduction
Knowledge management plays a vital role in creating sustained competitive advantages for an enterprise (Grant, 1996; Johannessen & Olsen, 2003; Lado & Wilson, 1994). Besides, knowledge management has made companies’ core competencies become a more powerful. Hence, competitive advantage has been more sustainable. The importance of an intangible asset is brainpower which is based on knowledge management (Eustace E, 2003). The conceptual analysis of KM’s effects on organizational competitive advantage is the resource-based of the firm which links the competitive advantage of organizations with resources and capabilities that are organization-specific, and hard to copy or imitate. Adopt a resource-based perspective of KM, researchers have argued that the sources of firm external knowledge are easily duplicated by competitors. Rather, it is how firms leverage their KM resources to create unique knowledge management capabilities that determine a firm’s overall effectiveness (Gold, Malhotra, & Segars, 2001). Although knowledge is an important factor of competitive advantage, it is a valuable knowledge assets someplace through an organization or a firm cannot present that every place of organization can get the same advantage of the knowledge (Szulanski S, 2000). The knowledge-based interpretation thinks through knowledge, knowledge as a corporate is important strategic resource (Grant G, 1996) because this kind of asset will generate possible competitive advantages.

Organization can not response to the competitive environment simply, but they are try to create knowledge-based competitive advantage to combined with competitors. Further, there is coincide between these two
because recently knowledge has come up as important administrative resources (Grant C, 1996; Nonaka F 1994). Knowledge permanence in the fundamental of analysis of the competitive advantage has been proven (Spender I, 1996). KM might be able to create sustained competitive advantage for firms are provocative; working in this area is relatively underdeveloped, theoretically and empirically. Research on competitive advantage and KM emphasized ‘descriptive study, rather than empirical study’ KM can lead to such an advantage (Ndlela & Toit, 2001; Holsapple & Singh, 2001).

The aim of this research is to study the empirical examination the impact of knowledge management enablers on competitive advantage.

2. Review of Literature

Numerous organizations have recognized that Knowledge enables organizations to gain and maintain competitive advantage (Davenport and Prusak, 2000, Nonaka, 1998). Knowledge plays an essential role (Choi et al., 2008). The knowledge can generate through a number of disciplines and the organization that has this area to produce special knowledge through the context of organization can have competitive advantage (Barney, 1986). Knowledge has seen as a crucial factor that organizations are embracing to create and maintain organisational competitive advantage (Beckman, 1999 and Chuang, 2004). Knowledge is a lasting resource of competitive advantage for organizations (e.g. Grant, 1996; Sharif et al., 2005; Nonaka cited in Cooper, 2006) and research in the field of knowledge management is important because it helps organizations to think through how they can compete effectively in a knowledge-based economy (Stewart, 2002). Knowledge management is positively effective on attaining competitive advantages in food industry and enables utilization of differentiation, cost leadership strategies and centralization (Massa and Testa, 2009). Cost knowledge management (strategic cost management viewpoint) added to competitive advantages (through utilization of cost leadership strategy) in four Italian companies (Silvi and Guganesan, 2006). The implementation of knowledge management improved competitive advantage of a business Chuang (2004). Managing knowledge-based resources has become the key for sustaining competitive advantage and superior performance (Grant, 1996; Grover and Davenport, 2001). The relationship between knowledge management and sustainable competitive advantage is highly positive (Ailar Rahimli, 2012; L. T. Ndlela, A. S. A. du Toit (2001); Afsaneh Zamani Moghaddam, Morteza Mosakhani and Mojgan Aalabeiki (2013).

The firms which adopted KM practices achieved better results than their competitors did (Marques and Simón, 2006). Knowledge Management as a set of activities of developing and exploiting knowledge to achieve or enhance a variety of outcomes such as organizational goal, objective, value, long-term
performance, overall success, or Competitive Advantage (Heisig, 2009). Knowledge management activities can support the companies in achieving continuing competitive advantages (Liebeskind, 1996).

3. Objectives Of Research
This study will be conducted for the fulfillment of the following objectives:
1. To study the Knowledge management enablers in Indian IT industry.
2. To assess the competitive advantage of firms in Indian IT industry.
3. To investigate the relationship between knowledge management enablers and competitive advantage in Indian IT industry.

4. Research Design
4.1 Description Of Variables
All items were developed basing on items from existing instruments, the knowledge management literature, and input from knowledge management experts. The study investigated employees’ perception regarding impact of knowledge management enablers on competitive advantage in IT industry. Therefore, in this part, according to discussion with experts and review of literatures, Four dimensions of KME are considered in terms of ‘Culture’, ‘Structure’, ‘People’ and ‘IT’. Five dimensions of competitive advantage are considered in terms of ‘Differentiation’, ‘Innovation’, ‘Growth’, ‘Alliance’, ‘Uniqueness’ and ‘Difficult to imitate’. Therefore, these four dimensions of are focused to evaluate the impact of KME on competitive advantage in IT industry.

Culture: Employees with their own unique norms, values and behavior impact the organization (Prusak 1996) and create the organizational culture (Dilnutt 2000). Culture assess the extent to which an organization’s supportive and encouraging of knowledge-related activities: the importance of knowledge to corporate success, learning are valued, individual expertise are valued, interaction with other groups, and clearly organizational vision (Gold et al., 2001). Organizational Culture explicitly favour knowledge sharing and knowledge integration encourage debate and dialogue in facilitating contributions from individuals at multiple levels of the organization (Davenport & Prusak 1998). For the study the organization culture, we examined the variables as collaboration, mutual trust and learning.

Structure: Organizational structure involves centralization of authority, complexity, formalization and integration (Miller and Droge 1986) and is the way in which responsibility and power are allocated and work procedures are carried out among organizational members (Nahm, Vonderembse & Koufteros, 2003). Structure can enable effective knowledge management through the influence of the structural framework, the
way this framework assists knowledge creation and innovation, the affect of this framework on organization behavior, and provide access to knowledge to foster creativity with the allocation of responsibility to individuals (Dilnutt, 2000; Hedlund, G. 1994, Nonaka, I., and Takeuchi, H. 1995; Gold, A.H.; Malhotra, A. and Segars 2001, ). Organization structure studied with the examination of formalization and centralization variables.

**Human Resources:** Knowledge resides in people. People are at the core of creating organizational knowledge (Chase 1997; Holsapple & Joshi 2001; Ndlela & Toit 2001; Lee & Choi 2003). Managing people who are willing to create and share knowledge is crucial task and finding new sources of motivation to increase people participation in knowledge sharing is a real challenge for organizations (Migdadi 2005; O’Dell & Grayson 1999). T-shaped skills enable their possessors to explore the interfaces between their particular knowledge domain and various applications of that knowledge in particular products (Leonard-Barton 1995). Human resource factor evaluated with the three variables such as T- shaped skills, positive attitude of the employees and creativity.

**Information Technology:** Information Technology has a crucial role to play in the creation and dissemination of knowledge in a variety of firms. Information technology permits a firm to create, share, store, and use knowledge (Leonard-Barton. D. 1995). IT is very essential for the storage and retrieval of information and explicit knowledge (Davenport & Prusak 1998). Information technology particular is an ability to apply knowledge across condition. Functional Skills are utilize in defeat the barriers of distance and time (Nonaka 1991; ; Stough, Eom & Buckenmyer 2000 and Ruokonent 2001).

**Competitive advantage:** Byrd & Turner (2001) studied that an organization’s competitive advantage can be manifested in many dimensions, like as market position, innovativeness, mass customization, and difficulty in duplicating. The study uses four measures of competitive advantage: (1) the item to measure innovativeness is ‘Our organization often uses knowledge-based innovation’, (2) the item for market position is ‘Our organization’s market position can strong barriers to entry for other firms’, (3) the item to measure difficulty to duplicate is ‘the KM capability in the organization would be difficult and expensive for rivals to duplicate’, (4) the item to measure the growth of organization is ‘Knowledge Management focuses on business efficiency’, (5) the item to maintain a successful alliance is ‘KME helps to proper communications between partners play a significant role’.

### 4.2 Hypothesis
Knowledge management enablers have a significant impact on the competitive advantage in IT industry.
4.3 Methods

This research paper investigated employees’ perception regarding Knowledge management enablers and competitive advantage. Therefore, in this part, according to discussion with experts and review of literatures, ten dimensions were considered that could be impact on competitive advantage. Therefore, ten dimensions in terms of ‘collaboration, mutual trust, learning, norms & value, centralization, formalization, T-shaped skills, attitude, creativity, IT’ were focused to evaluate the impact on competitive advantage in an IT industry.

Sample: A sample of 150 employees include senior level engineers & managers and middle level engineers & managers’ staff of five IT companies situated at Delhi (NCR) was selected randomly out of 180 employees.

Measures: In order to collect the primary data for the present study a questionnaire survey was employed. The questionnaire consisted of 31 items measuring Knowledge management enablers and competitive advantage. Total 180 questionnaire were distributed, out of which 160 were received back with a return rate (88.89%) 150 questionnaire were fond usable. Questionnaire used a five point Likert scale from one (strongly Disagree) to five (Strongly agree). Reliability of the scale on Cronbach’s alpha was found to be 0.873, which is considered reliable.

5. Data Analysis and Result

In order to test the hypothesis statistical techniques such as correlation and multiple regression analysis used.

Table 1: Correlation Analysis

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<tr>
<th></th>
<th>CA</th>
<th>KME</th>
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<tbody>
<tr>
<td>CA</td>
<td>Correlation Coefficients</td>
<td>.612**</td>
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<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
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**. Correlation is significant at the 0.01 level (2-tailed).

Table no. 1 presents the result of correlation coefficient between Knowledge management enablers and Competitive advantage of firm. The results indicate that there is a positive and significant correlation (r = 0.612) between Knowledge management enablers and Competitive advantage. This implies that the knowledge management enablers have statistically significant impact on the competitive advantage. The
higher the knowledge management enablers of an IT firm the greater will be the competitive advantage of the firm in terms of differentiation, innovation, growth, alliance, uniqueness and difficult to imitate.

Multiple regression analysis was conducted on the data obtained from the selected respondents. Table no. 2 shows the results of multiple regression analysis. The Knowledge management enablers (collaboration, mutual trust, learning, centralization, formalization, T-shaped skills, attitude, creativity, IT) as an independent variable and the differentiation as a dependent variable.

Table 2: Multiple regression analysis

<table>
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<th>Independent Variables</th>
<th>Unstandardized Coefficients</th>
<th>Dependent Variable: Competitive Advantage</th>
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<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
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<tr>
<td>Collaboration</td>
<td>0.795</td>
<td>0.4</td>
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<tr>
<td>Mutual Trust</td>
<td>0.543</td>
<td>0.268</td>
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<td>Learning</td>
<td>0.553</td>
<td>0.133</td>
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<tr>
<td>Centralization</td>
<td>0.383</td>
<td>0.206</td>
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<tr>
<td>Formalization</td>
<td>0.64</td>
<td>0.18</td>
</tr>
<tr>
<td>T-Shaped Skills</td>
<td>0.553</td>
<td>0.21</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.822</td>
<td>0.369</td>
</tr>
<tr>
<td>Creativity</td>
<td>1.106</td>
<td>0.352</td>
</tr>
<tr>
<td>IT</td>
<td>0.779</td>
<td>0.128</td>
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</table>

The results of multiple regression analysis indicated that culture, structure, human resource and information technology have a significant impact on the competitive advantage of IT firms. The centralization did not indicate significant contribution to competitive advantage. The results indicated that Information technology (t = 6.063, β= 0.446, p=0.000 <0.05) had a highest contribution to acquire competitive advantage in an IT industry, then followed learning (t = 4.166,β= 0.322, p = 0.000 < 0.05); formalization (t = 3.561, β= 0.303, p =0.000 <0.05); creativity (t = 3.145, β= 0.272, p = 0.002 < 0.05); T-shaped skills (t = 2.63, β= 0.235, p = 0.009 < 0.05); attitude (t = 2.63, β= 0.184, p = 0.027 < 0.05) ; mutual trust (t = 2.022, β= 0.181, p =0.045 < 0.05) and collaboration (t = 1.988, β= 0.171, p = 0.049 < 0.05).

5.1 Discussion
The results indicated that culture, structure, human resource and information technology have a significant impact on the creation of competitive advantage of IT firms. Centralization demonstrated weak impact on the
competitive advantage of IT firms. The following empirical evidence supports the our finding and explain the facts:

**Information Technology:** The research finds that information technology among the knowledge management enablers has the highest contribution to the creation of competitive advantage. The adoption of information technology support for simulation, prediction and systematic storing of information and knowledge and also support for collaborative works regardless time and place. Information technology provides a better platform for communication among organization members. The results are supported by a previous study showing that the capability of the organization in information technology field has positive and significant effect on the transfer of knowledge and the transfer of knowledge improves competitive advantage of the organization (Sheng and Chang, 2013). Management’s ability to evaluate, develop, and utilize IT applications to support and enhance business functions as a Competitive advantage (Mata et al. 1995, Ross et al. 1996).

**Culture:** The study found that culture plays a significant role in the creation of competitive advantage of firms in IT industry. Collaboration, mutual trust and learning among the employees of the IT industry create a favorable culture in the firm. Employees are supporting, willing to collaborate across organizational units, exhibiting faith in others’ behaviors, trustworthy and continuous learning which helps the firm to provide platform to maintain their competitive advantage. The finding is supported by a number of studies articulating that cultural factors are necessary to success of business in Vietnam (Le, Rowley, Truong, and Warner, 2007). Organization culture has a strong and positive impact on Vietnamese business innovation and business activities of the firms (Swierczek and Ha, 2003). Cultural KM capability builds a unique and significant impact on a firm’s competitive advantage (Que Thi Nguyet Nguyen, et al.,2009).

**Human Resource:** T-shaped skills, positive attitude and creativity tend to increase the level and amount of human resource of an organization. The results indicate that human resource has a higher the significant impact on the competitive advantage of firms in IT industry. Employees try to understand others task in addition to their own task and share knowledge with each other. A positive attitude to learn new things and exhibit creative ideas which enable to create a competitive advantage. The results are consistent with the study of Pfeffer (1994) and Foley (2000) that several ideas and knowledge of the employees pool together and come up with a better solution of the business problems. An organization can perform better if they improve member’s skills and know – how and connect to process development, which support the organizations to maintain their competitive advantage (Long and Vickers- Koch , 1995). Competitive
advantage is based on developing and exchanging information and knowledge through the firm’s human resources (McEvily and Zaheer, 1999).

**Structure:** The result of relationship between competitive advantage and structure shows that formalization has a positive and significant impact on competitive advantage of the IT firms. However, centralization has not a significantly affect on the firm’s competitive advantage. Employees work on a formal, planned basis and follow rules and procedures, they can achieve their unique position in a market or they can maintain their competitive advantage. Employees feel free to take action without a support of their supervisor; it creates a hurdle to maintain their competitive advantage in a market. These findings are supported by Berrell, Wright, and Hoa (1999), they claimed that due to strong influence by Confucian culture, in comparison to their Australian counterparts, Vietnamese managers were more accepting of hierarchical and formal management structures, placing less emphasis on individual actions, accomplishment, and being less willing to accept changes. Those firms emerging from central planning to some form of market socialism tend to be bureaucratic’. They refers to focus on loyalty, commitment, regulations and formal organizational structure rather than on future orientation (Deshpande et al., 2004).

6. **Conclusion and Implication**

This study concludes that knowledge management enablers are positively and significantly related to competitive advantage of Indian IT firms. The study conclude that knowledge management enablers specially culture- collaboration, mutual trust and learning; structure – formalization; human resource – T-shaped skills, attitude, creativity; and IT play a significant role in creating a competitive advantage of IT firms. They contribute significantly to the creation and maintenance of competitive advantage for IT firms. However, centralization had not a significant affect on the firm’s competitive advantage. The implication of the study include that IT firms need to focus on their culture, structure, human resource and IT. An increase in these factors levels lead to the creation and enhancement their competitive advantage. It also implies that IT companies should emphasize on collaboration, mutual trust, learning culture, effective utilization of human resources and information technology for enhance their competitive advantage. This result highlights the necessity to consider organizational culture, structure, and manpower and information technology as a dominant issue in knowledge management to enhance organizational competitiveness.

7. **References**


