Knowledge Management: Factors Influencing Successful Innovation

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Abstract

The aim of this study is to find out the factors, which have a great impact on innovation. As innovation is the only way forward to the demands of the modern market. Knowledge management, knowledge economy and knowledge about consumer behaviors are the three most effective inputs for any type of innovation. The research is based on hypothesis testing in SPSS software. All of the three variables are found to have a positive and significant correlation with innovation. The results add a significant contribution to the body of knowledge regarding innovation. And the conceptual framework is applicable for any type of innovation and organization. **Keywords:** Knowledge Management, Knowledge Economy, Knowledge about Consumers Behavior and Innovation.

1. Introduction

Doing business in the modern market is not as easy as it was before. The twenty-first century has changed the nature of the business world by maximizing competition among organizations. Innovation is the only actor, acting behind this phenomenon. Not only the performance of organizations has been improved but many options have also been given to customers and the market. Rapid technology growth, frequent product development etc. are some other elements given by innovations. Without bringing innovations in the routine business of any organization can result in complete destruction or a major failure.

Organizations, across the world, are bringing innovations as required by the market and customers. Customers have multiple choices and are continuously putting pressures on firms for fulfilling their needs and demand better than others. For retaining and attracting customers, organizations mostly relay on innovations which is a source of technological change and competitive pressure (Cavusgil, 2003). Now the question is how an organization makes an innovation? Innovation is not as easy as it seems like. It requires extensive knowledge and expertise (Adams and Lamont, 2003). And it is strongly linked with the availability and quality of knowledge and its management (Darroch and McNaughton, 2002). Collecting and the way of knowledge collection have also a significant impact over successful innovation (Shani, 2003). The aim of this paper is to present a conceptual framework for successful innovation in the rapidly changing market and customer behavior.

2. Literature Review:

2.1 Knowledge Management

Knowledge Management attracts many researcher's and journal's attention due to its significant role in modern business. It is the cause of competitive advantage and better performance. It can be defined as the collecting and leveraging of knowledge for better performance (Von Krogh, 1998). The performance of firms depends on the way they use and benefit from the knowledge resources (Alavi and Leidner, 2001). Many types of research were conducted to study various aspects of knowledge like its creation and application. This shows the not only the importance of knowledge but also the sources from where it comes from. Therefore knowledge flow, identification, and sharing also play a vital role (Tallman et al., 2004; Palacios et al., 2009). Through the use of knowledge, organizations obtain a competitive advantage by developing and innovating new products (Tidd et al., 1997). Organizations having more resources are often enjoying a better position to innovate while some enjoy the advantage of flexibility (Rogers, 2004). KM contributes to the innovation of both large and small firms and cannot be ignored (Hutchinson and Quintas, 2008). Innovation can be defined as the use of fresh ideas and it is already understood that ideas come from the creation and using of knowledge (Amabile et al., 1996). KM and innovation are strongly correlated and its significance is clear in any development and innovation (Khilji et al., 2006).

KM is also a type of resource which is used in other resource allocation and is a central element of economic theory (Penrose, 1959). Therefore it is the knowledge as a resource requires proper management for proper utilization and achieving organizational objectives. Every decision is solely dependent upon it. Management use knowledge for products, services etc. and often firms have a specific team for its utilization in the context of innovation (Clarke and McGuiness, 1987). Knowledge is such a wonderful resource that it impacts the other resource decisions, therefore its importance is unavoidable.

It is crystal clear from the literature that knowledge and its management has a very effective role in innovation. Without information, decisions regarding innovation cannot be made. Hence for any type of

innovation knowledge and KM is necessary. The following hypothesis can be derived: *H.1: Knowledge Management has positive relationship with innovation.*

2.2 Consumer Behavior's Knowledge

Consumers are the main part of the business. The term refers to individual customers or organizations (Kardes, F., Cronley 2011). They have directly or indirectly full control over any business, which is the reason for their extensive importance and role. Consumer behavior is the study of customers and the activities linked with buying, using and the disposal of products and services. It comprises emotional and mental responses that influence these activities (Kardes, F., Cronley, 2011). Consumer behavior's studies also discuss the influence of a society on the consumers.

Research shows that the adaptation of any innovations is dependent on the personality and behavior of consumers (Rogers,2010). As human is by nature resistant to change. Therefore the emotional attachment to the existing offering may cause hindrance to the acceptance of new behavior. And so the habitual behavior may result in not paying attention to fresh innovation or may not willing to do. Usually, consumers observe various kind of risks from innovation like social, physical, economical etc. (Sheth, 1981). So, the irrevocable importance of consumer behaviors may be given the required weight and should be properly communicated with proper information. Innovations should be made on the information collected from consumers and the benefits or use of the innovation should be properly shared with the consumers for changing their behavior (Hoeffler, 2003). The market vision of consumers increases the chances of acceptance of innovative products. If new products are not according to the consumers need, it will not be accepted and if they are accurately responsive then their acceptance chances will be high (Hippel, 2001).

Innovation is a continuous process of the invention or continuous improvement and consumers have different perceptions either to accept or reject it. Therefore its success is dependent upon the choice of consumers. So it should be made according to their choice (Roehrich, 2004).

The discussion shows that consumers have different behaviors regarding innovations. Innovations should be based on the information and knowledge collected from society. Such innovations will be successful and more productive for the organization. The following hypothesis is derived.

H.2: Consumer Behavior's Knowledge has positive relationship with innovation.

2.3 Knowledge Economy:

In 1966, Peter Druker introduced the concept of the knowledge economy in his book "The Effective Executive". He presented a very interesting explanation with the help of two types of workers, one who works with his hands and the one who works with his mind (Drucker, 1969).

Knowledge is a business product having an extraordinary value return. Use of knowledge for creating value is known as a knowledge economy. It is the source of incorporating human knowledge to technology (Arthur, W.B., 2009). Strategic element of KE is a high dependence on intellectual capabilities than on physical resources. Production and services based on intellectual activities accelerate the scientific and technical advances (Powell, 2004). KE has its role in developing and generating economic value in many fields. Innovation in technology is also the result of KE. But the significance of KE is also significant without technology (Amidon, Debra M.; Formica, 2005). In other words, modern technology may or may not support the creation of value (tangible or intangible) but KE is necessary of it and without it, value creation of something is not possible. Currently, the global economy is changing to a KE as information society's extension headed by innovations (Djeflat, Pr. Abdelkader, 2009). The practices and the rules that are required for the industrial economy must be interconnected. Therefore KE is very important for innovations. Innovation is not the product of physical resources but comes from the intellectual capabilities and knowledge, organization and people have.

Based on the above literature it is concluded that KE has a significant role in innovation. The following hypothesis is assumed to be correct.

H.3: Knowledge Economy has positive relationship with innovation.

2.4 Innovation:

Innovation is defined as new ideas, thoughts etc. in the form of method or device. Products, processes technologies, and business models are subjected to innovation continuously (*Maranville, S., 1992*). Originality and more effectiveness are the two main attributes of innovation. Innovation has a very vital role in the market and has a very meaningful influence on society. Innovation means slightly different for a different organization. For example in management, it is considered as a result of processes bringing new ideas that affect the society. In engineering, it is considered "a solution to a technical problem" (Growth in Services, 2005, *Consumer Policy Toolkit, 2007*).

The two main dimensions of innovation are it novelty and kind. Novelty means the degree to which the innovation is new to the market, process, business etc. and kind of innovation means whether is it is product

innovation, service innovation, technology innovation or policy innovation (The Oxford handbook of innovation, 2005). Innovation at the workplace involves the identification of problem or opportunity, modification of fresh ideas according to the needs of organization, promotion and practical implementation of these ideas (Davila, Tony, 2006).

The process of innovation depends upon the availability of knowledge regarding the structure of market, demographics and human behavior. It is inevitable and takes place almost everywhere in business and entrepreneurship. It is the source of creating new opportunities for the production of wealth (West, Michael A. 2002). Businessmen and entrepreneurs are contentiously struggling to enhance their pool of consumers, satisfy their customers better than their competitors, and offer quality products with affordable price and design effective strategies (Heyne, P., 2010).

The literature shows that innovation is a very important dimension of business. It is inevitable in business, technologies, processes etc. and is the cause of finding opportunities and creating wealth. Now the question is how innovation will be made? The answer is "it will be made for its objective on the information available for it". Therefore knowledge, consumer's behavior knowledge, and knowledge economy are the three necessary elements for any innovation.

2.5 Conceptual Framework:

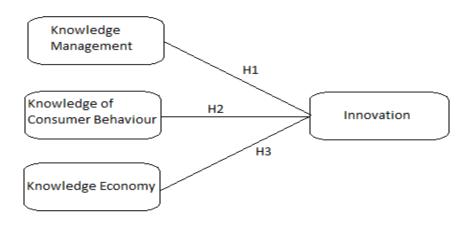


Figure 1: Factors influencing the successful Innovation

3. Methodology:

This study is based on hypotheses testing. After the development of the hypothesis, questionnaires were designed, which were distributed in telecommunication organizations. Random sampling technique was used in the collection of data. The total number of questionnaires distributed were 350 out of which 300 were found suitable for the analysis through SPSS.

4. Analysis:

4.1 Reliability Statistics:

The data was checked for its reliability and was found good for the research study. The Cronbach Alpha value is 0.76, which is an acceptable value.

4.2 Correlation Analysis:

Table 1: Correlation Analysis					
		KM	KCB	KE	Ι
KM	Pearson Correlation	1	·	•	
	Sig. (2-tailed)				
	Ν	300			
KCB	Pearson Correlation	.433**	1		
	Sig. (2-tailed)	.001			
	Ν	300	300		
KE	Pearson Correlation	.512**	.24**	1	
	Sig. (2-tailed)	.000	.004		
	Ν	300	300	300	
Ι	Pearson Correlation	.391**	.371**	.336**	1
	Sig. (2-tailed)	.000	.000	.000	
	Ν	300	300	300	300

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

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

H.1: Knowledge Management has positive relationship with innovation.

The above correlation matrix shows that a positive and significant relationship exists between KM and innovation. The correlation value is 0.391 at the significance level 0.000. Thus our assumption "Knowledge Management has a positive relationship with innovation" is correct.

H.2: Consumer Behavior's Knowledge has a positive relationship with innovation.

The correlation table shows that a positive and significant relationship exists between KM and innovation. The correlation value is 0.371 at the significance level 0.000. Thus our assumption "Consumer Behavior's Knowledge has a positive relationship with innovation" is correct.

H.3: Knowledge Economy has a positive relationship with innovation.

The correlation matrix shows that a positive and significant relationship exists between KE and innovation. The correlation value is 0.336 at the significance level 0.000. Thus our assumption "Knowledge Economy has a positive relationship with innovation" is correct.

4.3 Discussion:

It is evident from the literature that innovation is crucial for the development of the business. It is not only the reason for creating wealth but also a need for maintainability and sustainability of organizations. For any innovation, there is a need of answering the Why and How of it. Therefore knowledge and its management are necessary. Without knowledge about consumers, it is very difficult to make an effective innovation. So there should be enough KCB available for the innovation process. Similarly, KE has also equal importance in the process of innovation and making it a successful one. The analysis also shows the same.

5. Conclusion

It is concluded that for any successful innovation, Knowledge Management, Knowledge Economy and Knowledge about Consumer Behavior are the three most important inputs. These inputs not only were supported by the previous studies but is also sustained by this research. Therefore proper KM process, KE and KCE should be considered before any innovation.

References

Adams, G.L. and Lamont, B.T. (2003), "Knowledge management systems and developing sustainable competitive advantage", *Journal of Knowledge Management*, Vol. 7 No. 2, pp. 142-54.

- Alavi M and Leidner DE (2001) Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly* 25: 107–133.
- Amabile T, Conti R, Coon H, Lazenby J and Herron M (1996) Assessing the work environment for creativity. *Academy of Management Journal* 39(5): 1154–1184.
- Amidon, Debra M.; Formica, Piero; Mercier-Laurent, Eunika, eds. (2005). *Knowledge Economics: Principles, Practices and Policies*. Tartu University Press. ISBN 9949-11-066-1.

Arthur, W.B., 2009. The nature of technology: What it is and how it evolves. Simon and Schuster.

Cavusgil, S.T., Calantone, R.J. and Zhao, Y. (2003), "Tacit knowledge transfer and firm innovation capability",

Journal of Business & Industrial Marketing, Vol. 18 No. 1, pp. 6-21.

Clarke, R. and McGuiness, T. (1987), *The Economics of the Firm*, Basil Blackwell, Oxford.

- Consumer Policy Toolkit. Organisation for Economic Co-operation and Development. 2010. doi:10.1787/9789264079663-en. ISBN 9789264079656.
- Davila, Tony; Marc J. Epstein and Robert Shelton (2006). *Making Innovation Work: How to Manage It, Measure It, and Profit from It.* Upper Saddle River: Wharton School Publishing.
- Darroch, J. and McNaughton, R. (2002), "Examining the link between knowledge management practices and types of innovation", *Journal of Intellectual Capital*, Vol. 3 No. 3, pp. 210-22
- Djeflat, Pr. Abdelkader (2009). "Building Knowledge Economies for job creation, increased competitiveness, and balanced development"
- Drucker, Peter (1969). The Age of Discontinuity; Guidelines to Our Changing Society. New York: Harper and Row.
- Growth in Services. Meeting of the OECD Council at Ministerial Level, 2005. Organisation for Economic Cooperation and Development
- Heyne, P., Boettke, P. J., and Prychitko, D. L. (2010). *The Economic Way of Thinking*. Prentice Hall, 12th ed. pp. 163, 317–18.
- HIPPEL, E. (2001). "User toolkits for innovation." Journal of product innovation management 18(4), 247-257.
- HOEFFLER, S. (2003). "Measuring preferences for really new products." *Journal of Marketing Research* 40(4), 406-420.
- Hutchinson V and Quintas P (2008) Do SMEs do knowledge management? International Small Business Journal 26(2): 131–134.
- Kardes, F., Cronley, M. and Cline, T., Consumer Behavior, Mason, OH, South-Western Cengage, 2011 p.7
- Kardes, F., Cronley, M. and Cline, T., *Consumer Behavior*, Mason, OH, South-Western Cengage, 2011 p.9; Sassatelli, R., *Consumer Culture: History, Theory and Politics*, Sage, 2007, p. 10
- Khilji SE, Mroczkowski T and Bernstein B (2006) From invention to innovation: Toward developing an integrated innovation model for biotech firms. *Journal of Product Innovation Management*, 23: 528–540.
- Maranville, S. (1992). "Entrepreneurship in the Business Curriculum". Journal of Education for Business. 68: 27–31. doi:10.1080/08832323.1992.10117582.
- Palacios D, Gil I and Garrigos F (2009). The impact of knowledge management practices on innovation and entrepreneurship in the biotechnology and telecommunications industries. *Small Business Economics* 32: 291–301.
- Penrose, E. (1959), The Theory of the Growth of the Firm, Oxford University Press, Oxford.
- Powell, Walter W.; Snellman, Kaisa (2004). "The Knowledge Economy" (PDF). *Annual Review of Sociology*. Annual Reviews. doi:10.1146/annurev.soc.29.010202.100037.
- ROEHRICH, G. (2004). Consumer innovativeness: concepts and measurements. *Journal of Business Research*, 57(6), 671-677.
- ROGERS, E. M. (2010). Diffusion of innovations. Simon and Schuster.
- ROGERS, E. M. (2010). Diffusion of innovations. Simon and Schuster
- Rogers M (2004) Networks, firms size and innovation. Small Business Economics 22: 141-153.
- Shani, A.B., Sena, J.A. and Olin, T. (2003), "Knowledge management and new product development: a study of two companies", *European Journal of Innovation Management*, Vol. 6 No. 3, pp. 137-49.
- SHETH, J. N. (1981). "Psychology of Innovation Resistance: the less developed concept (LDC) in diffusion research", *Research in Marketing*, 4, 273-282.
- Tallman S, Jenkins M, Henry N and Pinch S (2004) Knowledge, clusters, and competitive advantage. *Academy* of Management Review 29: 258–271.
- *The Oxford handbook of innovation*. Fagerberg, Jan., Mowery, David C., Nelson, Richard R. Oxford: Oxford University Press. 2005. ISBN 9780199264551. OCLC 56655392
- Tidd J, Bessant J and Pavitt K (1997) Managing Innovation. Chichester: Wiley & Sons.
- Von Krogh G (1998) Care in knowledge creation. California Management Review 40: 133–153.
- West, Michael A. (2002). "Sparkling Fountains or Stagnant Ponds: An Integrative Model of Creativity and Innovation Implementation in Work Groups". *Applied Psychology*. **51** (3): 355–387. doi:10.1111/1464-0597.00951