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THE EFFECT OF KNOWLEDGE CREATION PROCESS ON BANK INNOVATION CAPABILITY: AN INVESTIGATION IN THE RETAIL BANKING SECTOR

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Abstract

In order to achieve a competitive edge in the market, the firm needs to be innovative, that is a firm continuously needs to differentiate its products and services. To innovate, organizations have to become knowledge-intensive. In this context, the study is an attempt to analyze the knowledge creation process and its impact on innovation capability in the Indian banking sector. This study attempts to develop a model of knowledge creation specifically for retail banking sector and analyze its impact on the innovation capability in the banking sector. The related review of literature suggests that generation of knowledge is most important for innovation, as it's the first and basic to innovation. With the help of literature, the paper identifies various models related to knowledge creation and knowledge transfer. 160 valid questionnaires were received from the bankers of public, private and foreign banks in NCR.A tentative model of knowledge creation in retail banks examining the various stages of knowledge creation processes is proposed. The results of the present study will be helpful to managerial practice by pointing out the importance of knowledge creation and illustrating their importance in innovation. The paper also highlights the importance of lower and middle-level bankers in the new knowledge creation and innovation. Future researchers may empirically examine the validity of the relationship.

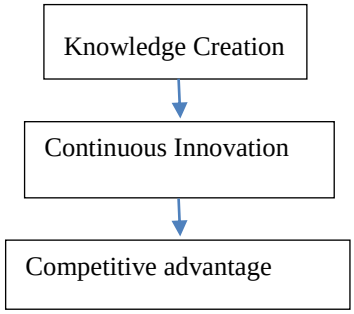
Key Words: Knowledge creation, Knowledge sharing, Knowledge codification, Knowledge transfer, Innovation.

The Effect of Knowledge Creation Process on Bank Innovation Capability: An Investigation in the Retail Banking Sector

Introduction

Retail banks are under immense pressure due to the entrant of newcomers as an aftermath of globalization. The competitive environment has intensified. Banks are on tenterhooks to develop new strategies for sustainable competitive advantage, therefore giving birth to the need of innovation. But innovation is not a miracle that will happen overnight. It requires rigorous planning and updating of skills through continuously creating new knowledge. Knowledge creation is fundamental to innovation. The work of Nonaka and Takeuchi [1] regards knowledge creation as the core of innovation. Both the concepts are closely linked to each other or can be called as weaved into each other. The business environment is very hysterical and organizations need to be able to cope with many distinct kinds of business, technological, social, and human demands. In order to be able to solve complex problems, the innovation is a prescription for the organizations. The service sector in general, and the banking sub-sector in particular, is struggling to be competitive on the basis of knowledge creation and innovation.Banks happen to be one service sector that uses a huge amount of intellectual capital for its operations. Banking is not just a business of money but a business of information. The changing scenario in the global business environment has led banks to examine the role of knowledge creation. Managing knowledge is as important to the banking industry as it is for any other kind of organization. Knowledge not only exists in archives, but is encapsulated in the minds of people and is unlocked over time through their actions. Innovation is dependent on the availability and creation of knowledge. It is indispensable to future growth and sustainability of banking sector in India, owing to the increasing competition and increasingly diverse and demanding customer expectations, changing technology and changing operations. There is a little understanding of how banks actually create and manage knowledge.The upcoming sections of the paper discuss

the theory of knowledge creation and innovation. The following sections analyse the relationship between knowledge creation and innovation in Indian banking sector and concludes with a theoretical synthesis.



Source: Nonaka and Takeuchi, 1995

Review of Theory and Empirics

Regarding Knowledge creation, new knowledge is not simply acquired from the outside. It has to be built on its own, frequently requiring intensive and laborious interaction among the members of the organization [2]. Knowledge creation is an acute humanistic, chaotic process of imagination leading to learning from mistakes and creation or invention of something new. Certainly, it is a dynamic process, starting at the individual level and expanding as it moves through communities of interaction which surpass organizational boundaries. This highlights that human relationships are of vital importance [3]. Organisational knowledge creation is a never-ending process that upgrades itself continuously [4]. From a vision or a documented plan into it is everyday real and measurable action with concrete results [5].

Over the past few years, knowledge creation has become one of the most important issues in business as well as services. There are cognitive limitations on an individual's capacity for storing and processing information, individual knowledge creation often tends to be of a tacit nature [6]. The firms need to develop and renew their knowledge continually to prevent knowledge from becoming obsolete in the event of radical innovation [7].

Regarding, Innovation, there are various definitions appear in the literature. Application of new ideas to the products, processes or any other aspect of a firm's activities is termed as innovation. Innovation as new knowledge incorporated in products, processes, and services [8]. Innovations can be classified according to technological, market and administrative/organizational characteristics. Innovation is concerned with the process of commercializing or extracting values from ideas; this is in contrast with the invention, which need not be directly related associated with commercialization [9]. Innovation is more than technical-organizational; it also demands a social policy. Successful innovation, therefore means more than research and development; R&D must be transformed into products and services that will be sold in the market and will lead to added value for stakeholders [10]. Innovation is defined as "the creation of new knowledge and ideas to promote new business outcomes, aimed at developing internal business processes and structures so as to create market-driven products and services [11]. John Schumpeter is credited for the introduction of the concept of innovation to Economics, in the 1930s. The five major types of innovation as discussed by him are: (i) Introduction of a new product or a qualitative change in an existing product, (ii) Process innovation new to an industry, (iii) The opening of a new market, (iv) Development of new sources of supply for raw materials and other inputs, (v) Changes in industrial organization [12]. The goal of innovation is the creation of value - added and a positive impact on the operation and development of organizations [13].

Financial innovation is hard to define. The features of innovation in the banking sector are quite different from the characteristics usually encountered in other sectors. Banking today is characterized by profound social, economic and technological changes. Financial Innovation is to activate, create and then popularize new financial instruments as well as new financial technologies, institutions, and markets [14]. An exclusive definition of financial innovation is hard to consolidate.

The relationship between Knowledge Creation and Innovation has been analyzed by few studies. Creativity is the production of novel and useful ideas in any domain, whereas innovation is the successful implementation of creative ideas within an organization; all innovation begins with creative ideas. It further describes the influence of organizational work environment on the creativity of individuals which further impacts overall organizational innovation [15]. There is a systematic relationship between the two strongly related concepts innovation and knowledge creation [16]. Important theoretical work in both streams of research, highlighting the fundamental

similarities and differences has been done. Various innovation models are compared. Radical and incremental innovation is established as the common thread among all the models. The distinction between radical and incremental innovation is further examined. The nature of organizational knowledge and the process of knowledge creation are discussed and concluded with a new framework that differentiates types of innovation based on a knowledge creation perspective. Creativity is often a necessary condition for subsequent innovations [17].Knowledge acquisition and responsiveness to knowledge are more important for innovation than knowledge dissemination [18]. The conditions or organisational environment that facilitate knowledge creation along with knowledge management tools provide platform for knowledge creation process, further enhancing the innovation capability [19].Knowledge sharing is a key issue for the enhancement of innovation capability [20]. tacit knowledge sharing has more significant effects on innovation quality and Explicit knowledge sharing has more significant effects on innovation speed [21].

Review of literature shows the research gaps in some areas. Innovation is dependent on the availability of knowledge and is indispensable to future growth and sustainability of banking sector in India, owing to the increasing competition and increasingly diverse and demanding customer expectations, changing technology and changing operations. The lifeblood of organizations thus is to possess the capabilities for acquiring, creating, sharing, diffusing, utilizing, and storing knowledge among organizational members. Among all the competencies, knowledge creation is the dominant resource of organizational innovation. Lots of theoretical models and abundant literature that try to test knowledge creation processes have studied the issue of knowledge creation. But those papers focused on conceptualizing the process of knowledge creation and did not investigate the concrete problem of knowledge creation at the retail branch banking level.

There is little understanding of how retail banks actually create and manage knowledge. A review of the relevant literature, however, suggests that banking, being a knowledge-intensive industry is suffering from a lack of research in knowledge creation. This study aims to examine the knowledge creation process in retail banking and its effect on the innovation capability. From the above review of the literature, it is clear that knowledge is a very critical factor, the matter much talked about nowadays, for competitive advantage. Innovation, the mainstay of organizations is also dependent on knowledge. But how the knowledge is created in banks is still nebulous. Given the increasing competition in the banking industry and rapid technological evolution, how do banks innovate to meet these challenges? This study will focus on how knowledge is created in retail banks.

The effect of knowledge creation on innovation has not been studied much in baking sector. In recent years, banks have come up with innovative products for their customers and the increasing marketing trend in the banking sector. Innovation has become an important indicator for success for banks. Banks have to constantly develop innovative products and processes. The objective of this research within the framework of all these elements is primarily to measure the knowledge creation process of banks operating in NCR and reveal the nature of the relationship between the knowledge creation levels of the banks in the research and their innovation activities. Also, the purpose of the study is to find out the importance of lower and middle-level bankers in the new knowledge creation and innovation.

Model and Methodology

Knowledge creation process refers to the initiatives and activities undertaken towards the generation of new ideas or objects. The term knowledge creation is vague and lacks a single agreed definition. As such knowledge creation has not been defined separately anywhere in literature. Knowledge creation is emerged out of the concept of knowledge management only. There are research studies that include the definition of knowledge creation as a series of activities or process, as the output of such processes, or as a value-adding outcome. Knowledge creation as a process refers to the initiatives and activities so as to create new ideas or enhance the existing ones. As an output knowledge creation refers to the new ideas generated. For this study knowledge creation is a process.

The definition of knowledge creation as chosen to guide this review is ''the generation, development, implementation, and exploitation of new ideas''. This definition captures the initiatives and activities undertaken in routine or special towards the generation of new ideas or objects, towards the generation of new ideas, estimated as different from existent knowledge, which in turn, provide a conceptual basis for the generation of value-addition to the organization. The proposed four broad stages of knowledge creation on the basis of literature studied are knowledge generation, knowledge sharing, knowledge codification and knowledge transfer

To identify and assess innovative concepts in retail banking, Innovation capability in retail banking refers to the successful implementation of new or improved (significant or less) innovation in process/ administration, marketing, and adaptation of technology within the branch. It also refers to the innovative culture or innovation capability within the organization. Innovation is about positive change.

To analyze the process of knowledge creation and its impact on innovation capability the questionnaire method was used to collect the research data. For primary data, all the five basic types of banks available, i.e., Public/Nationalized banks, SBI and its associates, Private banks and foreign banks have been taken. The survey was conducted in NCR region and stratified convenience random sampling technique was used. Respondents were Banker including Branch Manager, Senior Manager, Manager, Assistant Manager etc. The sample size is 160. It is important to mention here that respondents in the study are not developers of the examined innovations, but are viewed as actual or potential users of innovations. They have the capacity to create, develop and test an innovative concept.

The questionnaire consisted of two parts. Both parts one and two used positive questions to measure the knowledge creation process and innovation. The concept of knowledge creation was measured with 29 questions and the innovation capability was also measured with 29 questions. Knowledge creation was measured within the dimensions of knowledge generation, knowledge sharing, knowledge codification and knowledge transfer activities being carried out in banks. Innovation capability was measured within the dimensions of technological innovation, process (administrative innovations), marketing innovation and innovativeness (innovative culture). The 5-point Likert scale was used to measure. The last part of the questionnaire consists of questions to identify the demographic characteristics of the respondents. The questions were designed on the basis of literature surveyed. The questionnaires were applied with the reliability test. A regression analysis was applied to determine the effect of the knowledge creation on the innovation capability. The MS-Excel package was used for the analysis of the research data.

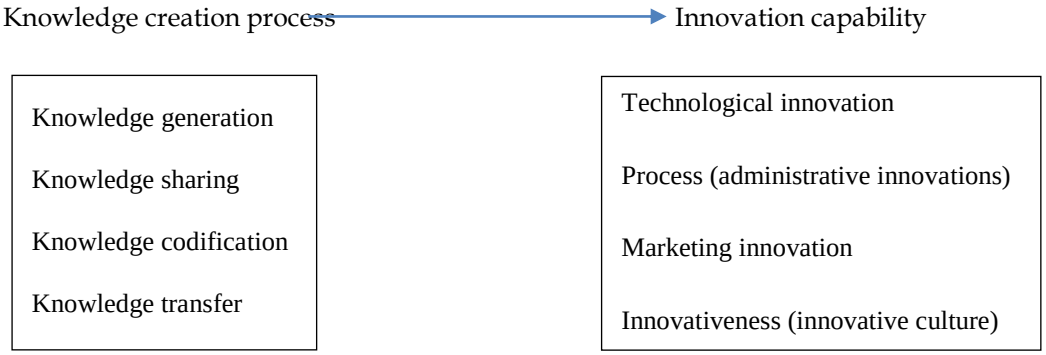


Figure: Conceptual Framework

Analysis

Demographic Analysis of the Respondents shows that from 160 valid questionnaires, the statistical results show the demographic data is as follows. Out of total data set, 37.5 percent are public banks, 54.38 percent are private banks and rest 8.12 are foreign bank respondents. When the distribution is considered in terms of the educational background of the participant employees, 31.25 percent of them are undergraduates; 68.75 percent are postgraduates. As per the gender groups, the majority of, i.e., 63.13 percent is male while females constitute 36.87 percent of the participants. The work experience of the respondents ranges from 3 to 39 years. When considering the job experience of respondents, 61.9 percent of them had been working for 3-10 years, 18.1 percent working for 10-20 years, and 20 percent for 20-39 years.

Reliability analysis has been carried out first. The basic definition of reliability is yielding the same, compatible or consistent results. In any study, so as to be data of value and use, it must be reliable. Reliability is a way to assess the quality of measurement items used in data collection. So, the results of any study can be valuable only if the measurement procedure is reliable. In the present study, all the research variables have Cronbach's alpha scores are above 0.70, which indicates a high reliability of the questionnaire.

For testing the correlation between knowledge creation and innovation, Karl Pearson's coefficient of correlation has been used. The correlation is positive among variables. A positive correlation implies that when one variable increases, the other variable also increases and vice-versa. Hence the results conclude that both knowledge creation process and innovation capabilities are positively related, denoting that the fact that any change in knowledge creation will yield a positive impact on innovation capability of the organization.

Table 1 shows correlations of the Knowledge Creation Process and Innovation Capability Dimensions factor dimensions. As can be seen from the table, correlations among knowledge creation process dimensions are all positively related and range from 0.17 to 0.94. The Knowledge Sharing and knowledge codification factors had the

highest correlation in this sample. That is, high values on Knowledge Sharing are associated with high values on knowledge codification. Correlations among innovation capability dimensions are all positively related and range from .06 to 0.89. Innovation Capability and Process Innovation factors had the highest correlation. Correlations between OLC and OI dimensions are all positive and significant, range from .17 to .94. the highest correlation is between Knowledge sharing and knowledge creation.

Table 1: Correlation of Knowledge Creation Process and Innovation Capability Dimensions

	KCr	INC	INNO	KCd	KG	KS	KT	MI	PI	TI
KCr	1	.501(**)	.631(**)	.597(**)	.865(**)	.608(**)	.551(**)	.554(**)	.614(**)	.408(**)
INC	.501(**)	1	.766(**)	0.069	.573(**)	0.124	0.075	.580(**)	.613(**)	.330(**)
INNO	.631(**)	.766(**)	1	.233(**)	.632(**)	.256(**)	.238(**)	.875(**)	.898(**)	.745(**)
KCd	.597(**)	0.069	.233(**)	1	0.121	.940(**)	.823(**)	.202(*)	.229(**)	.261(**)
KG	.865(**)	.573(**)	.632(**)	0.121	1	.177(*)	0.124	.551(**)	.612(**)	.345(**)
KS	.608(**)	0.124	.256(**)	.940(**)	.177(*)	1	.667(**)	.212(**)	.248(**)	.254(**)
KT	.551(**)	0.075	.238(**)	.823(**)	0.124	.667(**)	1	.240(**)	.249(**)	.219(**)
MI	.554(**)	.580(**)	.875(**)	.202(*)	.551(**)	.212(**)	.240(**)	1	.775(**)	.531(**)
PI	.614(**)	.613(**)	.898(**)	.229(**)	.612(**)	.248(**)	.249(**)	.775(**)	1	.563(**)
TI	.408(**)	.330(**)	.745(**)	.261(**)	.345(**)	.254(**)	.219(**)	.531(**)	.563(**)	1

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

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

Regression analysis is a statistical technique used to analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables. In the present study, innovation is a dependent variable and knowledge creation is an independent variable. Both the variables are metric in n nature. In the basic form, a regression equation is:

INNO = a + b KCr

The regression outcome is as follows:

INNO = -1.854 + 1.470** KCr

R2 = 0.90

The regression analysis shows that innovation is a positive function of knowledge creation and the regression coefficient of knowledge creation is significant on 1 percent level of significance. The overall explanatory power of regression equation is 0.90. That is to say, out of cent percent variation in innovation, 90 percent is due to knowledge creation in the banking sector in India. In general, innovation is a function of knowledge generation and knowledge sharing. But knowledge generation is the sole determinant of innovation.

Table 2: Regression Coefficients of Knowledge Creation Process and Innovation Capability

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig
(Constant)	-1.854	.576		-3.219	.002
KCr	1.470	.144	.631	10.218	.000

Dependent Variable: INNO

The theory also supports the fact that generation of knowledge is most important for innovation, as it's the first and basic to innovation. The process initiates with the generation of knowledge and further steps are considered later on only.

Conclusion

Knowledge creation has to be central, not a peripheral firm activity. It should not be linked to projects only, but should be institutionalized as an on-going process. Knowledge creation should be the responsibility of everyone and not just a few. It is a complex phenomenon, which involves various phases. Review of literature does not find any model of knowledge creation for banks. Knowledge creation in literature is related to tangible products and goal-driven projectsThis study attempted to develop a model of knowledge creation especially for retail banking and its impact on the innovation capability. Banks being a knowledge-intensive sector is apt for the study. The study investigateed how banks, being a service industry, enhance innovation through knowledge creation at the branch level.

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