Chapter 3
Review of Literature

3.1 Introduction

The quality of any research largely depends on literature review. In our country, various studies have undertaken in the area of innovation focusing on types, sources and barriers of innovation. In order to formulate objectives of the study, hypotheses of the study and develop construct of the study, in-depth literature review was carried out. This chapter presents the same.

‘India Innovation Survey ‘jointly conducted by CII (Confederation of Indian Industry) and Boston Consulting Group found that: (A) Innovation is a top strategic focus for most Indian companies, An overwhelming 89% said the importance of innovation has increased significantly over the last 10 years, And 39% felt that innovation today has become critical to their organization. (B) An overwhelming 91% said innovation was amongst the top three strategic priorities.¹

INFLIBNET’s National Online Union Catalogue, which is Information and Library Network Centre (An IUC of UGC) providing database of doctorate research studies, carried out at the various universities of India. The following studies are search result of studies carried out on banking innovation in India.

When study on Individual & Group Innovation in service sectors searched, not a single study has been found. It was observed that so many research studies have been carried out in our country and in foreign countries are more of general in either individual innovation or organization innovation in banks.

3.2 Research Gap

In today’s changing environment we find innovation everywhere, in spite of extensive research on innovation in organization that have spent many decades since 1960, a
consistence and comprehensive framework guiding managers towards successful innovations could not be developed so far. Review of earlier research indicates that the most researches were limited to working within the framework of single theoretical or prospective, to make study of single type of organization and to the case study of the single organization. Although the relative influence of individual social and organizational variables on implementing individual level innovation has been emphasized in earlier research, the influence of interaction among individual and social variable on work role innovation has not been explored adequately in earlier research. As we select, some commercial banks to study regarding the gap of individual level innovation (Managers) and group level innovation. South Asian Journal of Management published it. There is absence of studies on correlation between individual innovation and group innovation. The more have been emphasis given to individual level and organizational level only.

3.3 Evolution of Innovation

Just as humans evolve, so too does the process of innovation. Humanity is slowly getting better at it simply because our brainpower keeps growing. The theory of evolution proposes that as species evolve, they exhibit increasing diversity at every level of biological organization, all the way down to individual organisms and molecules such as DNA and proteins. Therefore, it would make sense that the evolutionary process would express upwards as well as downwards, in humanity’s most complex survival skill – ideation.

If we look at humanity’s slow rise from prehistory, there have been three waves, or bursts, or evolutionary acceleration. The first was the transition from hunting gathering to the development of the agricultural age, propelled by man’s ability to fashion basic tools, like hammers, spears and plows. This happened roughly a few thousand years ago. The second was the industrial revolution, propelled by the invention of automation, assembly lines and organized workflow and standardization. This happened a few hundred years ago. And the third is the information revolution, which is rapidly evolving humanity’s relationship with the tools it invents, and this started a few decades ago.
Similarly, the methods and tools of innovation have evolved in a similar fashion…

The processes and technologies that comprise the art and science of innovation have progressed in three oddly similar phases. In what I call the BC era, “before computers,” innovators were equivalent to hunter-gatherers of ideas. The best that even the mighty IBM could do, in terms of innovation technology, was print posters admonishing workers to think harder. The village shaman would cast an occasional fishbone diagram and invoke the Pareto Principle to conjure up a little quality for the organization. Hung like totems around the office, such items become artifacts for the social ethnographer.

However, in the AD era, "After Digital," the invention of computers changed everything, in much the same way that hand tools changed cavemen. We are building brain tools now, not hand tools. Brain amplifiers. What Steve Jobs called "bicycles for the mind." The first wave of innovation evolution came with the invention of early innovation tools – mind-mappers, idea catchers, eventually we saw BBS forums that allowed discussions to be temporally distributed. The second wave of evolution started with the deployment of innovation pipelines and stage gate technologies that allow the production of ideas to be “industrialized” and automated. This was the era of the “idea factory and the leading innovation consultant of the time even used that term as its brand. (I was a fellow at John Kao’s Idea Factory. John’s a thoughtful teacher and it was and still is a great place to perfect the skill of ideation).
At long last, a third wave of innovation is now finally beginning. Third wave innovation seeks not only to simplify and automate the production and processing of ideas, it aims to enable inventors to create fundamentally better ideas. And just as we see in society today, the tools change the user as well as the other way around, leading to what we’ll see some sunny day in the future: a critical mass singularity of new innovation tools and methodologies.

There is an adage in management that you can’t manage what you don’t measure. Soon, therefore, innovation management will have the same sort of tools that project managers and financial managers use today, tools that not only measure innovation, but actively assist in assessing not only what might wrong early enough to fix it cheaply, but also in refining ideas and designs to maximize customer delight, intimacy, and value.

These new tools will be innately social and they will be mobile. For example, consider the task of team optimization. Yesterday, the way to build a startup team was to hire people you knew and trusted, and whom your hires knew and trusted. Unfortunately, trust isn’t absolutely transitive, and so the reliability of hires eroded pretty quickly down the ladder. The emerging model is to leverage social networks and “innovation reputation ratings” to more effectively build teams of compatible entrepreneurs.
And it’s going to be much more than that. Expect to see artifacts of the next wave like innovation apps for digital whiteboards, the use of artificial intelligence (like Siri) to assist humans in the process of refining ideas, the emergence of social workflow that leverage business and social activity frameworks to map and codify workflow optimizations on the fly, and comprehensive systems for measuring and tracking IP value dynamically for real-time innovation audits. We could call this “lean and agile innovation.” Alternatively, maybe “innovation unleashed.”

This is what we will see in the Third Wave of Innovation as an art and a science. So far, third wave innovation is rare. Most innovation managers work in the second wave, as they are stuck in the prevailing paradigm. This is because real innovation is actually quite difficult, and requires deep thinking, real life experience, and insight into how the work can be done differently.

A terrific example of a third wave innovation consultancy is Innovation Labs, which recently produced a book called The Innovation Master Plan. Now, talk about comprehensive! It provides strategies for every contingency, and aims to be The Art of War for innovation.

In general, first wave innovation produces products and services that are hit or miss, often requiring three or more generations to iron out all the bugs. Second wave innovation usually produces better customer satisfaction sooner, leading to a more loyal user base. And third wave innovation is the icing on the cake, terrific for customers because the entire process is tuned to generate customer delight and enthusiastic fans from the get-go.

For example, a decade ago how many generations did Apple need to perfect a product? It was a minimum of three generations to get a concept that could take over an industry, like the iPod or iPhone: version 3 was the one that people couldn’t live without. But how many generations did the iPad take? One.

How many product generations does it take your company to perfect an offering?

Have you invented your industry’s equivalent of the iPhone yet?
And which wave of innovation is your company surfing?

The answers to these three questions will likely predict the likelihood that your organization will leverage the full impact of the Information Revolution, transform the experience of your customers, and assure your place in the next generation of your industry.  

3.4 Studies in Area of Innovation in Business Organization

H. K. Tang aims to capture a panoramic picture of innovation in organizations. To achieve this, innovation is viewed from perspectives representing different fields of knowledge, particularly those on creativity, the dynamics and the organization of innovation. At the center of the model, is the project raising and doing process. This core process is enabled by people's knowledge and skills, their motivated behavior and integration with the rest of the organization. The results of this process are new products, processes or service. The source of innovation is information; however, it is only useful if it is communicated to the motivated who also have the necessary knowledge and skills. An organization's guiding principles and resources provide the direction and support for innovation. The paper also examines the factors originating from the external environment that impact the organization's choice of mission, strategy and tasks.

H. K. Tang, researched on work culture is a crucial factor behind an organization’s innovation output rate. He also reports the development of an inventory of organizational innovativeness (IOI) that could be used to measure organizational effectiveness in innovation. It is based on a model of organizational innovation that is grounded on key concepts found in literature on innovation. The inventory comprises nine scales of measure and forty-six items in total. Data for IOI was collected through a questionnaire survey sent to members of an international professional engineering society in Singapore. Data analyses showed that the inventory is internally consistent and passes tests for validity. Further data analyses confirmed that on average the local work environment is more effective in carrying out tasks that are more routine than in innovating. They also showed that the local subsidiaries of non-indigenous
multinational companies are using information technology more effectively in fostering innovation and integrating employees from different organizational units. At the individual respondent level, the data reveal significant differences in the perception of the work environment depending on whether a respondent is a manager or not.

Aviv Shoham, develops an Integrative model of organizational innovativeness, based on research in several disciplines to identify antecedents to, characteristics of and outcomes of organizational innovativeness. Cross-sectional, questionnaire-based data from Israeli, Lithuanian, and Slovakian public organizations were used to test the model. Market and learning orientation enhanced organizational innovativeness, whereas internal politics and centralization reduced it. Organizational innovativeness enhanced two individual-level outcomes (satisfaction and commitment), as well as innovation performance, which, in turn, improved overall organizational performance.

Chin-Huat Ong & D. W.H., exploratory study aims to identify those internal and external organizational characteristics that significantly affect individual innovation in an organization. The sample was drawn from a subsidiary of a Japanese company manufacturing consumer electronics products in Singapore. A total sample of 190 was obtained, which is made up of 34 top-level employees, 54 middle level employees and 102 operational level employees. Results from the study showed that individual innovation does not significantly differ across the three levels of employees. Nine internal characteristics were hypothesized to affect the innovation propensity of individuals:

1. Communication structure
2. Knowledge structure
3. Individual interaction
4. Integration
5. Project identification
6. Project facilitation
7. Leadership
8. Organizational support and
Only knowledge structure was found to be significantly related to individual innovation. The external organizational characteristic, which is represented by environmental dynamism in this study, is also found not to have any significant relationship with individual innovation.\(^{vi}\)

Carsten K. W. De Dreu, review the Motivated Information Processing in Groups Model to understand group creativity and innovation. Although distinct phenomena, group creativity and innovation are both considered a function of epistemic motivation and prosocial motivation. EM is considered a function of, for example, time constraints, accountability pressures, preference diversity, openness to experience, and ambiguity aversion. PSM is stronger under, for example, participative decision-making, shared social identity, and collective reward schemes. A review of the authors’ work, and that of others, supports the prediction that group creativity and innovation is higher when group members combine high EM with a PSM. Avenues for new research and practical implications are Dye.\(^{vii}\)

Rice, G., Responses from Egyptian employees to a questionnaire incorporating the Schwartz Value Survey, reveal that individuals for whom Self-direction is a relatively important value type perceive themselves to be more creative in the workplace than individuals with Conformity or Power as preferred value types. Results regarding Organizational Context support earlier studies that emphasize the salience of supportive supervision and a caring, consultative work environment in fostering creativity. However, theories implying that employee creativity is hindered by controlling, hierarchical environment are not corroborated.\(^{viii}\)

Kalyar, Individual innovativeness provides an organization basis for high performance improves firm’s competitiveness and fosters long-term success. This area is of greater interest for entrepreneurs because individual level innovation is linked with firm-level innovation. However, research in this area is still at nascent stage in South Asia, particularly in Pakistan. This study developed and tested a model of individual innovation and its antecedent factors; creativity and self-leadership. Data were collected from 180 respondents from 10 producer firms in Pakistan; the response rate remained 72%. Regression analysis was run to test the hypotheses. Results
showed that creativity and self-leadership are important predictors of individual innovation; proving positive direct relationships.\textsuperscript{ix}

Cesar Camison and Ana villar lopaz they analyze the role of the organizational capabilities as antecedents of non-technical innovation, comprising organizational and marketing innovation and examine the effect on market competitive advantage within the capabilities- based view theoretical framework. For analyzing theoretical model, 159 industrial companies in Spain were sampled and a system of structural equation was modeled using partial least square methodology. The result confirms that both organizational memory and learning capabilities favor the development of organizational innovation and marketing innovation.\textsuperscript{x}

Vera Blazevic and Annouk Lievens they examine the antecedents and consequence of project learning during the new financial service innovation process. They analyze the impact of project learning on project performance and performance of financial institutions. They investigate the antecedent role of the nature of the communication and organizational design on project learning. For the development of propositional framework, a survey research has been developed with in the Belgian banking industry. The findings of the study indicate that the level of project learning contributes the corporate reputation of the financial institution. The impact of innovative communication on the level of project learning is contingent upon the quality of planning stage.\textsuperscript{x1}

Chyi Jaw, Jyue- Yu- Lo and Yi Hsing Lin they aim to understand how service characteristics, market orientation and efforts in innovation together drive new service development performance. They include both qualitative and quantitative for researching the relationship: first in depth interview from six service mangers are taken to support the conceptual framework and investigate measures, then they make survey research from top 500 service firms and 100 financial firms in Taiwan. The result indicates that the service characteristics of heterogeneity and perishability and market orientation positively influence the firm’s resource and rewards in innovation and efforts in innovation and market orientation positively impact on NSD performance. The study benefits the development of innovative advantages of service on contrast to physical goods.\textsuperscript{xii}
Helena Forceman explores what kind of innovations have been developed in small manufacturing and service enterprise and what has been the degree of innovation capacity the small enterprise possess. She also includes comparison and difference across the manufacturing and service enterprise. The empirical evidence is based on quantitative data gathered through questionnaire, which yield 708 qualified responses of Finnish small enterprise with a fewer less than 50 employee. The analysis is based on descriptive statistics and non-parametric tests. The study displays the rich diversity of innovation patterns in small enterprise and demonstrates the slight difference between the manufacturing and service industry but she indicates the difference across the sectors within the industries. The finding of the study that the rich diversity of innovation patterns in small enterprise suggests that diversity should also direct the policies aiming at supporting innovation development in context of small business.

Monique Goepel in his study aims to explain individual innovation reaction behaviors, which are carried through the organisation with the theory of planned behavior. Thus conceptualizing it is a deliberate decision making process on part of organizational members. The study is based on the role model behavioral characteristics of promoters and opponents of innovation, a more fine grained typology of promotive and opponent behavior is developed the distinguish between the active and passive modes of behavior. The study contributes in innovation management in three ways first, it develops the typology of individuals support for innovative initiative in work place, second, it applies the theory of planned behavior and third, it derives hypothesis about the antecedent determining each type of behavior as a basis of empirical investigation.

Mun Y. Yi, Kirk D. Fiedler and Jae S. Park, developed a new measure of adopter category innovativeness and compared its effectiveness with the existing measures of personal innovativeness in IT. They examine two alternative models in which the role of individual innovativeness was theorized differently- either as a moderator of the effects that perceived innovation characteristics of usefulness, ease of use and compatibility on future use intension or as a direct determinants of innovation characteristics. For analysis, they have collected the 634 data with the help of questionnaire, examined the two models, and measured individual innovativeness
using the two measures ACI and PIIT. The study results shows that individual innovativeness is a direct determinants of innovation characteristics and the two measures share many common things.\textsuperscript{xv}

Robert F. Hurley studied the concept of internal receptivity of new ideas and innovation, termed innovativeness, was explored as an aspect of group culture. The connection between the innovative productivity and group culture tested empirically at the group level of analysis. Innovativeness hypothesized to effect innovative productivity and it was hypothesized related to belief other four dimensions of group culture: Decision-making, power sharing, support and collaboration and an emphasis on developing people and careers. The study includes 8969 individuals located in 38 groups in large research and development agency of United States. The findings carried out by them as follows, after controlling the structural properties, higher levels of innovativeness were significantly associated with greater innovative productivity; further groups with cultures that emphasis people and career development and participative decision making were associated with higher level of cultural innovativeness.\textsuperscript{xvi}

Michelle M. Hammond, James L. Farr, Nicole L. Neff, they investigate the relationships between four predictor type viz individual difference, motivation, job characteristics and contextual influences and individual level work place innovation. The outcomes of the study indicated that individual factors, characteristics of job and factor of environment were moderately associated with the phases of innovation process.\textsuperscript{xvii}

Ashok Subramanian, the main objective of his research is to highlight the need of reconceptualize the theoretical construct of innovativeness. In order to identify the innovative firms, a variety of one-dimensional measures of innovativeness have been employed, thus in this study used the time of innovation adoption as a measure of firm’s innovativeness. The research contends that the conceptualization of innovativeness as a unidirectional construct is incomplete. Innovativeness, he believes, as an enduring trait that consistently exhibited by innovative firms over a period. In other word, a valid measure of innovativeness must represent the temporal
dimensions. The studies propose and test the validity of multi dimensional measures of innovativeness.\textsuperscript{xviii}

Mariyam Faridi Khorshidi and Hadi Rajab Baigy, they conducted research to find factors on innovation adoption based on Roger’s model. In their study for statistical analysis, they included 351 distributors of Sadaf plastic Sima Company. According to Cocharan formulation based on stratified classification sampling method, 140 people selected as research samples. The Likert scale was used in study, cronbatch alpha was found 0.949, and with spearman’s co efficient, they found that the innovation adoptions have positive and direct relationship with relative advantage, compatibility, triability, observability and a revise relationship with complexity. Based on Friedman test, it was found that compatibility with the ranking average of 3.71 has the most impact and complexity with ranking average of 2.60 has a least impact on innovation adoption.\textsuperscript{xix}

Larisa V. Shavinina, in her study considered how it happens that some individuals become exceptional innovative leaders and their organizational output a constant flow of innovation. Based on autobiographical and biographical accounts of well-known innovation leaders and integrating a number of independent directions of research, this article presents the theory of innovation leadership. The theory aims to explain the nature of innovation leadership, at the individual level, that is why some individuals are very good at both generating and implementing new ideas into practice in the form of new product, process or service.\textsuperscript{xx}

Dioni Elche-Hotelano analyzed a set of factors that influenced innovative intensity in service firms. The analysis focused on broad variety of inputs required for innovation including knowledge source, types of innovation investment and activities to manage appropriability. The empirical analysis uses original firm level data on a sample of service firms in Spain. Our result indicate that internal source of knowledge, acquisition of external technology, internal design and strategic protection have a positive influence on innovation performance.\textsuperscript{xxi}

Ali Quazi and Majharul Talukdar both investigate the impact of demographics on individual performance and adoption of technological innovation in work places in
Australian context. Data was collected using structured study instrument. Findings suggest that employees favorable attitude towards an innovation is translated into its adoption in work place context. Training has emerged as strongest predictor of both perception and usage of innovation followed by the education level of employees. This result implies that development of positive attitude in employees is crucial in getting an innovation acceptable to employees. Education attainment can also help to develop a favorable attitude of employees towards an innovation. However, this favorable perception does not translate into actual acceptance of an innovation for workplace usage. These findings have implications for the effective management and implementation of innovation at the organizational levels that are high lightened in the paper.

Carolyn Axtell, David Holman and Toby Wall consider in their paper how employees innovation develops during the course of introducing team working for production related staff. Longitudinal analysis revealed that different predictors were active at different phases. At first change in idea implementation were related to changes in management support. Subsequently changes in suggestions making were associated with changes in job control and changes in idea implementation were linked to changes in team support for innovation. Results are consistent with the developmental notion that, whilst external support is an important predictor of innovation initially, structural job changes and local regulations are more important later.

Therefore, there are number of studied found focusing on innovation across the different sectors and place. However, there are no any studies carried out related to Individual & Group level innovation in banks particularly in India. Hence, the present study attempts to study the Individual & Group level innovation in selected banks. On the basis of above literature review, research gap has been identified. The present study focuses on the following aspects.

- Individual Level Innovation:

Individual level innovation means in this study how much Branch manager is Innovative in his work culture.
• Group level Innovation:

Group level innovation means how much the employees of the branch are innovative, Employees innovative work culture is considered as group level innovation.

3.5 Significance of the Study

The present study attempts to check the gap between individual and group level innovation of different commercial banks. This study focuses on different antecedent of individual and group level innovation in branches of banks, which will serve as input and its output, is in the form of customer satisfaction. Thus, this study try to address the issues like different antecedent of individual level, group level innovation and its impact on customer satisfaction. Numbers of studies have been carried out in individual level innovation and organizational level innovation. The study is regarding the interaction among individual and group innovation has not been explored previously. Thus, the proposed study will be more significant for the branches of selected public and private banks.
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