Chapter 3: Research Design

3.1 Statement of the Problem

Study how successful firm’s business performance are impacted with the linkages between knowledge management and innovation culture, and what are the factors that may be affecting the transition to innovation culture in the organizations thus hampering business performance.
3.2 Research Questions

RQ1: How successful companies have achieved improvement in business performance with the linkage of knowledge management and innovation culture and its impact on the organization’s performance?

RQ1a: What aspects and elements of culture that have created a mediating effect to sustain the linkages?

RQ2: What factors affect the transition to innovation culture?
3.3 Research Objectives

- To map an evolution of how successful companies have tread a journey of linkages of knowledge management and innovation culture and have achieved impact on business performance

- To identify the factors that may be affecting transition to such a culture thus hampering enhanced business performance
3.4 Operating Definitions

- Innovation culture is defined as an organization-wide shared basic value that support innovation, organization-wide norms for innovation, and perceptible innovation-oriented practices (Herzog & Leker, 2007).

- Business performance is defined as an achievement of organizational goals related to profitability and growth in sales and market share, as well as the accomplishment of general firm strategic objectives (Hult, Hurley, & Knight, 2004).
3.5 Research Methodology

Exploratory research focuses on unstructured and not well-understood problems that aim to uncover and better comprehend the nature of the phenomenon of interest and develop knowledge in that area (Ghauri et al., 1995; Sekaran, 2003). The research process for qualitative method is also considered emergent, i.e. an initial plan for research may change or shift after the researcher enters the field and begins to collect data (Creswell, 2009), the researcher had also experienced the same during the process of the research due to such a nature of the problem that was undertaken and the journey so far has been full of learning. The initial phase of the proposed research is very apt for an exploratory research due to emerging nature of the field of study, and subsequent stages were followed by quantitative methods, thus deploying a mixed method for the purpose of research; the summary of the research methodology is presented in Fig. 3.1, and the following sections further elaborates the research methods deployed for the purpose of the study.

Fig. 3.1: Research Methodology
3.5.1 Research Methods

As mentioned above the study was carried out by the mixed method and in combination with qualitative and quantitative methods, the Document Analysis using Secondary data was initially deployed, followed by semi-structured interviews and administering a survey, and data analysis was carried out using factor analysis and regression analysis to draw inferences.

3.5.2 Data Collection and Analysis: Research Question 1 & 1a

Document Analysis using Secondary data method on two of the most successful companies who have been successful in implementation of knowledge management initiative and are also considered highly innovative, they are identified based on the Global Most Admired Knowledge Enterprises awarded organizations (GMAKE, 2011) was carried out, and the researcher selected the Infosys Limited and 3M for the purpose of the study.

- For RQ1 & RQ1a, the Document Analysis using Books, journals, industry reports, statistics, and different surveys were carried out.

- The factors were identified based on the analysis and conclusions were drawn, the identified factors were used as input for the next part of the study.
3.5.3 Data Collection: Research Question 2

The initial part of the study was conducted at the two units of a top ranking IT firm based in India, here afterward referred to as “organization”, and the following methodology was adopted:

- At this stage the factors identified from the earlier study were validated through a process of semi-structured interviews, a method best suited for obtaining in-depth and detailed research material in an informal settings, which otherwise may be difficult to obtain by any other means, and this also ensures that the information is highly meaningful since the discussions were conducted with the leading practitioner and experts within the field of KM and innovation from the organization, and they were also identified based on the consultation with the unit heads/peers.

- Kvale had suggested that the most suitable number of interviewees for a qualitative research study is between five and twenty-five (Kvale, 1996), hence for the purpose of this study considering the availability of the interviewee and the time and logistics constraints, fourteen participants were identified, and face to face interviews were carried out and found to be adequate for comparison and analysis of the responses.

- According to Yin, by adopting various data sources also increases the validity of the construct and reliability of the study (Yin, 1984), therefore use of multiple sources of data were adopted for the purpose of this part of the study, i.e. along with face to face interviews, observation and document analysis was carried out thus forming a triangulation in order to bring more coherence, accuracy and reliability on the topics.
• As a following step questionnaire was designed based on the factors identified in the earlier stages and also by making use of the inputs from all studies carried out so far, a 5 – point Linkert scale was used for the purpose of capturing the responses.

• The questionnaire was reviewed by the experts & their inputs were incorporated (Appendix A).

• A piloting of the questionnaire was performed electronically on a small group of people to incorporate basically their views and ensure ease of administration and collection of responses, and based on the feedback changes were incorporated, one of the significant change that was to add a disclaimer clause and to include an option to be anonymous so that the respondents feel free to respond to the questionnaire.

• The questionnaire was electronically administered.

3.5.4 Data Analysis: Research Question 2

The outcome of the survey results were subjected to the following analysis:

○ Part I: To establish the existence of the factors that were identified from the studies, the following methodology was adopted:

  ▪ Before proceeding with the Factor Analysis, to ensure the quality of measurement the variables were subjected to reliability - Cronbach alpha reliability test, and appropriateness - Barlett’s test of sphericity and Kaiser-Meyer-Olkin measures of sampling adequacy (Rose and Sullivan, 1993). One exception was made on Technology related factor even though at the initial stage Cronbach
alpha was lower than 0.7, however considering the significance of the factor that too in IT organizations, the factor was retained to gain further insights.

- After determining that the data scales were suitable for further analysis, principal components analysis (PCA) using SPSS was applied to determine the minimum number of factors that account for maximum data variance (Hair et al., 1987; Tabachnick & Fidell, 1998).

- The eigenvalues technique for factor extraction was used, and only those factors with eigenvalues greater than 1.0 were included in the model, as these variables also signify factors with variance greater than one.

- The next step in the process was to calculate factor loadings, presenting the significance of each variable within the factor category, and labeling of the factor (Hair et al., 1987; Tabachnick & Fidell, 1998), and discussion of the factors identified was presented.

- Part II: A regression analysis was carried out to ascertain the presence of a relationship and the magnitude of strength between knowledge management initiatives and impact on business performance in the organization.