Background

There is a high level of interest in Knowledge Management (KM) amongst consulting firms as knowledge is their core asset and the consulting firms consider KM to be a core capability for achieving competitive advantage. Large consulting firms have been increasing their expenditure on information technology and communications infrastructure, developing Intranets and data warehouses, and using Internet to create their knowledge management systems. Global consulting companies like McKinsey, Accenture, Ernst & Young, KPMG, PriceWaterhouseCoopers, etc. as well as Indian companies like Infosys, Tata Consultancy Services, Wipro Technologies, etc. have all been investing heavily in their KM systems - even though they have adopted different approaches to manage knowledge. As examples, Ernst & Young spends about 6 percent of its revenue on KM and McKinsey spends about 10 percent. However despite the pervasiveness of the view that KM is a core component of competitiveness for consulting companies, its performance evaluation for its effectiveness, is still difficult to determine.

Relevance/contribution of the present research

On the measurement and evaluation of KM’s impact, one key researcher on KM (Tiwana 2000) reports that despite their research on several companies that have been successful in implementing KM, he has “yet to come across one that has a strong measurement program in place.” Some companies like Buckman Laboratories, Canon, Skandia and Dow Chemical have begun to measure their Intellectual Capital (IC), with the belief that growth on this front is often a good indicator of future performance. Though measuring IC is a growing area of interest in KM field and metrics are being developed and applied by some of these firms, there has been a felt need for more research. A more representative framework of KM performance measures - specifically for knowledge-focussed organisations like consulting firms needed to be evolved.

Much of the existing literature on IC measurement stems from the traditional measures based on financial and accounting perspective. Traditional measurements like Return on Investment (ROI), Revenue growth, Tobin’s q etc. typically look at organisational knowledge as a ‘static’ asset in an organisation. These provide a snapshot of the firm’s
state of intellectual health at a given point of time, but provide no direction for KM strategy development. No specific guidance can be derived out of the traditional financial measures to exploit the dynamic role of KM - if integrated with business strategy - because this involves assessment and monitoring of various other non-financial measures. The traditional financial/accounting measures of performance worked well for the industrial era, but now the system for measurement requires to be reformulated for the knowledge-based organisations. New 'intangibles' like customer satisfaction, employee satisfaction, availability of knowledge-sharing/ dissemination mechanisms, clarity of company's vision, CEO's leadership, competency mapping mechanisms, etc. assume particular importance for consulting firms whose survival and competitive advantage now depends on the how effectively these intangible assets are leveraged and evaluated. The current research attempted to address the above limitations of traditional performance measures by examining the possible alternative measures of performance for consulting firms. Certain new metrics for measuring quantitative as well as qualitative indicators - including those from market/customer related, human/competency development, corporate leadership/strategy/KM practices and technology domains - have been proposed. The specific contribution of the research is by attempting to construct an integrated framework of KM based performance measures for consulting firms, which can be implemented straightaway – particularly by IT consulting firms.

Research Boundaries and Objectives

The survey of existing literature as well as the secondary data on KM practices revealed that there are, as yet, no perfect metrics for knowledge work. Moreover, it is rarely possible to directly adopt a firm's performance metrics from one sector of economy (for example, petroleum refining) to another firm from a different sector (for example, IT consulting) because differences exist between various sectors of business operations and even between similar firms within a sector. In view of this inherent limitation of the KM field, this research was bounded in scope only to consulting firms – being knowledge-focused in operation. Also, the investigations involving questionnaire design,
interviews/experience-survey and case studies were confined to organisations based in India, so that the above objectives of research could be successfully achieved - with concrete recommendations for application - within the time horizon of this research.

The research aimed at moving beyond the conventional static measures of performance into a dynamic broad-based approach of performance measurement focussed on consulting firms. This involved broadening the context of KM performance measurement by investigating the significance of certain softer qualitative indicators along with hard quantitative financial measures - like ROI - used so far traditionally.

**The objectives of the research included:**

1. To examine the possible alternative measures of performance for consulting firms.
2. To propose certain new, innovative metrics for measuring quantitative as well as qualitative indicators including those from market/customer related, human/competency development, corporate leadership/strategy/KM practices and technology domains.
3. To evolve an integrated framework of KM based performance evaluation measures for such consulting firms, and
4. To validate the concept and structure of the evolved framework through illustrative case studies.

**Literature Review**

Since the KM field itself is of recent origin, not much of research literature was available on modelling for KM performance measures - particularly for consulting firms. As the starting stage of research process, *three streams of KM literature – KM concepts, KM application in consulting organisations, and KM performance measurement* – were reviewed. The first stream of literature examined helped in demystifying the buzz around KM and clarifying its basic concepts. The clear distinction between IT Management and KM brought out in the literature focusses on KM as the set of *business processes* - rather than on the tools and technologies of IT
domain. The implementation methodology for KM and associated managerial challenges brought out in the literature set the context for KM assessment and performance measurement as an ongoing activity. The review of literature on learning organisations – including the framework of “3 Ms” (Meaning, Managing and Measurement) - was useful for bringing home the intrinsic characteristics of consulting firms (for ensuring survival and growth, consulting firms have to have the characteristics of learning organisations) and the importance of performance measurement and associated metrics.

Regarding the second stream of reviewed literature, it was observed that there is glaring inadequacy of published literature on KM applications in consulting companies – and more severely so for KM performance measurement in consulting firms. (The publications of trade associations and apex bodies like Consultancy Development Centre (CDC) and NASSCOM also were not of direct help in this specific stream of literature). Since the KM field itself is of recent origin, not much of research literature is available on KM applications. Within the innovative companies who have adopted KM as a systematic and formal business process, consulting companies are of course, the leaders. But perhaps the initial apprehensions about the long term KM effectiveness and the competitive trade pressures, have been the strong inhibitors for these companies for making public their approaches and practices about KM. Nevertheless, the conceptual classification of KM strategies for consulting companies given by Hansen, et al. and some other “guidelines” provided by other authors like Botkin and Dunford have a useful relevance to the present study. Other literature just reemphasises the seriousness and the need for more research in the area of KM performance evaluation.

Finally, the last portion of literature study provided the “state-of-the-art” on the subject of KM performance evaluation. An appreciation of the drawbacks of the existing traditional measures of IC/ KM strengthened the need for more research into the subject. Outlining of some current research works has brought home the fact that despite some scattered, but appreciable efforts in that direction, as yet no effective
framework of KM performance measures has been developed which can be used as a guide by the consulting organisations.

The literature reviewed in this section helped in showing the ‘broad direction’ for proceeding further. The benchmarking and balanced scorecard techniques have been useful at a conceptual level for providing an understanding of the need for an integrative mechanism for various possible disparate measures of KM. The stakeholder viewpoint for performance measures is another useful insight given by the literature. However, broadly speaking, other than getting an understanding of some useful KM concepts, identification of research gap in KM performance assessment, and picking up some constituent elements of performance measures suggested by some scholars for further examination, the present collection of available published literature has not been of substantive help for the present study. This rather inadequate ‘state-of-the-art’ on KM performance evaluation is understandable because the KM field itself is of recent origin and very few researchers have reached that level of depth to appreciate the importance of measures for KM effectiveness.

Outline of Research Methodology

After extensive survey of available literature and secondary information, the first stage of research began as exploratory, and in the course of exploratory investigations and fieldwork, a conceptual "Framework" of KM performance measures was developed. In the second stage, the research moved to prescriptive phase. This required statistical tests of significance on all candidate measures to arrive at the ‘top 12’ KM measures for various data sub-sets forming the contents of the KM performance framework, followed by illustrative validation of the framework through some case studies. The insights gathered through the illustrative case study validation stage were incorporated into the finally recommended framework after detailed analysis and interpretation.
The two major stages of research process followed are:

**Stage I: Development of the Conceptual Framework**
1. Library research
2. Design of Questionnaire/ Interview Schedule for Primary Data Collection
3. Collection of Primary Data through Questionnaire/ Interview Schedule

**Stage II: Statistical Testing and Illustrative Validation of Framework through Case Studies**
1. Statistical testing
2. Illustrative Case Studies

The "Research Process Flow Chart" on the next page explains in more detail each stage of the research process/ methodology -- starting from formulation of research problem to evaluation of research achievements.

**Data Analysis and Interpretation**

The statistical analysis of the primary data collected at the field at Stage I of the research led to the construction of the "Framework of KM Performance Measures". The 'core data' analysed was the 'perception' of 108 respondents about 'Importance' and 'Ease of Measurement/ Assessment' on a 4-point scale - for each of the 47 factors listed in the questionnaire. Table in the following pages gives the ranked list of all 47 factors with associated ratings on ease of measurement/ assessment. This ranked list of important measures of KM performance arrived at after the primary data analysis formed the premise for the recommended "Framework of KM Performance Measures".
RESEARCH PROBLEM
(Aim/ Objectives)

CONCEPTUAL STUDY
KM concepts/ practices

LITERATURE REVIEW
Earlier Research on the topic

SECONDARY DATA STUDY
State-of-the-art in Indian Scenario

RESEARCH DESIGN

QUESTIONNAIRE DESIGN
Design/ pre-testing of Questionnaire and Case Format

SAMPLING DESIGN
Sampling Frame, technique, Sample size decisions

FRAMEWORK PRESENTATION
Conceptual framework design Functional Index, 'Radar' Charts

STAGE 1 FIELD WORK
(Primary Data Collection from 108 respondents)

DATA PROCESSING & STATISTICAL TESTING
('z' tests, 't' tests)

CONCEPTUAL FRAMEWORK
of KM Performance Measures

STAGE II FIELD WORK
(CASE STUDIES)

RESEARCH OUTCOMES

RECOMMENDED FRAMEWORK
OF KM PERF. MEASURES
* For IT Consulting Firms
* For Other sectors

MANAGEMENT RECOMMENDATIONS
* Actions as pre-requisite
* Actions for Implementation

FURTHER RESEARCH RECOMMENDATIONS
* KM Maturity Index
* Longitudinal Case Study

RESEARCH ACHIEVEMENTS
(Vis-a-vis Objectives)

RESEARCH PROCESS FLOWCHART
Table: Ranked List of All Measures (For Whole Sample)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Ease of measurement</th>
<th>Importance Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CEO's personality/ leadership style</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Return on Investment ROI (%)</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Employee satisfaction</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Availability of a knowledge sharing/ dissemination mechanism</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Availability of company's stated 'Vision'</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Availability of a Quality Management systems/practices documentation</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Image</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Reuse rate of existing knowledge/ best practices (%)</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>KM integration with strategy</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Annual revenue growth (%)</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>New orders (No.)</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Availability of company wide collaborative/messaging/workflow tools</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>IT investments (Rs.)</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Ratio of repeat customers to total (Ratio)</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>R&amp;D investments/revenue (Ratio)</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Availability of a competency mapping mechanism</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Market share (%)</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Availability of an employee experience recording mechanism</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>New ideas of employees implemented (No.)</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Employee Value Added EVA (Rs.)</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Communications investments (Rs.)</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>Certifications by industry/standards bodies</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Success ratio for new bids (Ratio)</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>Training on KM practices (Days)</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Time saved in creating new proposals</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>Av. amount of rework/rejects (%)</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>Industry accreditation</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>Av. training imparted per year (Days)</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>Av. experience of employees (Years)</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>Training/ competence development spending: Av. per employee (Rs.)</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Duration of KM functioning (Years)</td>
<td>3</td>
<td>32</td>
</tr>
<tr>
<td>Staff dedicated for KM function (No.)</td>
<td>4</td>
<td>33</td>
</tr>
<tr>
<td>Av. orders per customer (No.)</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Time spent on project closing reports</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td>No. of executive levels in hierarchy</td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>Patents held &amp; pending (No.)</td>
<td>4</td>
<td>37</td>
</tr>
<tr>
<td>Duration of Web-based functioning (Years)</td>
<td>4</td>
<td>38</td>
</tr>
<tr>
<td>Av. expenses per unsuccessful bid (Rs.)</td>
<td>2</td>
<td>39</td>
</tr>
<tr>
<td>No. of direct reports to CEO</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>Total papers published per year (No.)</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>Library investment per employee (Rs.)</td>
<td>4</td>
<td>42</td>
</tr>
<tr>
<td>Total no. of invited talks per year (No.)</td>
<td>4</td>
<td>43</td>
</tr>
</tbody>
</table>
The Framework of KM performance measures proposed in this research is based on the "Top 12" measures from the above Table.

The structure/presentation format of the recommended framework involves computation of an aggregate functional index KMPI (Knowledge Management Performance Index) and also pictorial presentations in 'radar charts' or 'bar charts' for KMI (Knowledge Management Intensity) and KMP (Knowledge Management Performance) values for any company.

The ranked list of KM measures arrived as explained above pertained to full data set of 108 responses across all sectors of consulting business and covering firms in private sector and public sector, including firms with MNC parents. The sampled data set of 108 firms included firms already having a KM system (with, or without a KM performance review mechanism), as well as firms not having a formal KM system in place. Thus while the full sample represented comprehensively the consulting firms domain as a whole, a need was felt to investigate any differences in KM measures between various sub-sets of whole data. Various data sub-sets were formed from the whole data set of 108 respondents from 57 organisations and the corresponding outcomes of comparative analysis of various possible pairs of data sub-set were arrived at. Observations were made on the comparison of the status of KM practice and review mechanisms, area of consulting operation and Indian vs. MNC firms. The data subsets so formed were then subjected to similar statistical significance analysis for arriving at ‘top 12’ measures in each case.

It is revealing that for the consulting domain as a whole as well as for the IT consulting sector, the list of top 12 KM measures is common and hence the proposed framework can
be confidently implemented straightaway for IT consulting firms. The research has also revealed that just one financial measure (ROI) gets included among the top 12 measures for KM performance, the rest all belong to 'non-financial' categories. **Customer Satisfaction is the top-most measure of KM performance for the consulting domain as a whole, as well as for IT consulting sector.** Other commonly important measures of KM performance across major categories of data sub-sets are Employee Satisfaction and CEO’s Personality/Leadership. So now for some reasons, if the management wants to pick just one factor for improved focus on KM, it knows which factor to choose. **It’s not ROI – as was traditionally considered – but it is the Customer Satisfaction.** The consequent action to be initiated by management in this case is to put in place a mechanism for measuring/assessment of customer satisfaction on a measurable scale.

The structure of the recommended framework – as functional index KMPI, as well as KMP and KMI ‘radar chart’ presentations - has been discussed in the thesis, using the comparison of 4 firms as ‘case studies’ for illustration. Background information about two case firms studied in detail is also given.

The optional/unstructured responses obtained at the data collection stage were also discussed and observations made on their significance and relevance. This unstructured information studied was by way of the respondents’ feedback on the review mechanism of KM systems in their firms and also some suggestions for ‘factors’ to be considered additionally as candidates measures of KM performance.

Though further research studies may be desirable for identification of top 12 measures separately for each other sector – say, management consulting, engineering projects consulting, etc. - pending that, the same framework can also be applied for any consulting firm from any sector. This is because the top 12 measures incorporated in the proposed framework are the same for consulting domain as a whole as for IT consulting sector, which has already displayed ‘maturity’ of business performance at global level. So, as a starting stage, the same list of top 12 KM measures can be deployed for any consulting firm, in the conceptual framework of KM measures proposed.
Achievement of Research Aims/Objectives

This research had aimed at evolving a broad-based approach of performance measurement focussed on knowledge-based organisations like consulting firms. This involved broadening the context of KM performance measurement by investigating the significance of certain non-financial ‘qualitative’ measures along with the traditional hard ‘quantitative’ financial measures like Return on Investment.

The objectives of the research and corresponding achievements of this research study against each objective, are given below:

Objective 1:
To examine the possible alternative measures of performance for consulting firms.

Achievement:
Extensive literature study was done on the related work, prior to the design of the primary data collection questionnaire/ interview schedule. As the outcome of the literature research and the study of secondary data sources, as many as 74 possible measures of performance for consulting firms were examined at the stage of design of the field data collection questionnaire.

Objective 2:
To propose certain new, innovative metrics for measuring quantitative as well as qualitative indicators including those from market/customer related, human/competency development, corporate leadership/strategy/KM practices and technology domains.

Achievement:
The original collection of 74 possible alternative measures formed the basic inputs for final design of the questionnaire, through a really insightful ‘experience survey’ process using the expertise and knowledge of 6 key professionals – as the pre-test exercise. This resulted in identifying 47 measures out of the original 74, for inclusion in the field questionnaire. So in the field survey, the questionnaire/ interview schedule had proposed...
various new innovative metrics - financial as well as non-financial – as the candidate measures of KM performance in consulting companies. As many as 44 proposed metrics were non-financial, belonging to the categories of market/customer, human/competency related, corporate leadership/strategy/practices and technological domain. Thus, the respondents at the field research stage had a range of innovative and new metrics before them, to think over and give their responses.

**Objective 3:**

*To evolve an integrated framework of KM based performance evaluation measures for such consulting firms*

**Achievement:**

The thesis has discussed the construction of the recommended framework of KM performance measures for the consulting firms. The structure of the proposed framework - by way of a functional index KMPI as well as pictorial presentation in the ‘radar chart’ format – was also presented. This structure is based on integrated assessment of KM performance for the company on ‘top 12’ KM measures evolved through the statistical analysis of the primary data. The functional presentation of the evolved framework involves computation of the values of Knowledge Management Performance (KMP) and Knowledge Management Intensity (KMI), based on the relative values of all top 12 measures. Likewise, the KMP and KMI charts also depict pictorially all the 12 important measures in an integrated presentation.

**Objective 4:**

*To validate the concept and structure of the evolved framework through illustrative case studies.*

**Achievement:**

The concept validation of the framework was done with 4 consulting firms based in India. The comparative observations on relevant aspects are discussed for all 4 firms in Chapter 5. In addition, detailed narration and in-depth analysis is done for 2 firms – as the
'study of the contrast' as given in an appendix of the thesis. The KMPI values for the case firms computed through the recommended framework validate the concept, if compared relatively. The structure of the framework – as the functional index KMPI, as well as the radar charts – was well appreciated by all the case firms studied. They indicated the **ease of understanding and implementation** as the strong point of the recommended framework.

**Recommendations for Implementation of the Framework**

In order to make the research useful to management of consulting firms, actionable recommendations are presented below. These relate to the actions recommended as pre-requisite for the implementation of the proposed framework, as well as the on-going actions to be taken by management for keeping up the effectiveness of the framework after implementation.

**Actions Recommended As the Pre-requisite:**

The recommended framework of KM performance measures is based on ‘top 12’ measures. 9 of these 12 factors are not accurately measurable or easily quantifiable, but have been identified in the field survey as very important. Even within these 9 factors, the ease of accurate assessment/ measurement is different. These 9 measures are given below in the descending order of their importance.

- Customer satisfaction
- CEO’s personality/ leadership style
- Employee satisfaction
- Availability of a knowledge sharing/ dissemination mechanism
- Availability of company’s stated ‘vision’
- Availability of a Quality Management systems/ practices documentation
- Company’s Image
- Reuse rate of existing knowledge/ best practices
- KM integration with strategy
Despite the inherent difficulty for accurate assessment of the above ‘qualitative’ factors, successful and leading companies in consulting sector have already installed some mechanisms for assessment/ quantification of above measures. For example, the illustrative case firms Tata Consultancy Services has put in operation a system for annual assessment of employee satisfaction on a measure Employee Satisfaction Index (ESI). Monitoring of such measures becomes more effective if the firms adopt formal mechanisms for assessments of these ‘qualitative’ factors.

Apart from the company’s own efforts, independent third party agencies like trade associations, federations, independent business research groups and trade media can also play important role for coming out with periodic assessment / rating of various member firms on above measures. For example Dataquest – IDC India annual surveys have become commonly accepted ‘benchmarks’ on some of these measures like customer satisfaction, employee satisfaction etc. for IT consulting/ software sector. NASSCOM, the apex body and umbrella organisation of the IT companies in India can play an important role for relative benchmarking/ assessment of their member firms, on above measures.

So as a prerequisite, the consulting firms have to put in place mechanisms for assessment/ quantification of the above measures to aid them in comparing their performance with the benchmarks. Wherever the managements feel, help of external organisations like NASSCOM, MAIT, etc can be taken for evolution of such mechanisms. In respect of firms from non-IT consulting, apex associations like Consultancy Development Centre (CDC) can be requested to assist. Other third party agencies like All India Management Association (AIMA), Business India Group, The Economic Times Research Bureau, etc can also be enlisted for such exercise.

With the above management recommendation, the consulting firms will be on a sound footing for actual implementation of the proposed framework.
Actions Recommended for Implementation:

After having established mechanisms for reasonably accurate assessment of the top 12 KM performance measures, the consulting firms have to decide on two things - a reference base for determination of its KMI value, and another benchmark for determination of KMP value.

For determination of Knowledge Management Intensity (KMI), the importance perception of the firm for each of the 12-KM measures is determined with reference to a base of comparison. This base can be consulting domain as a whole or the particular sector/area of the firm's operation. The framework presently recommended can be used directly for all IT consulting firms, as far as reference base is concerned. For firms in non-IT sectors too, the present framework provides the reference base for the consulting domain as a whole. However it is recommended that the reference base values should be decided for different consulting sectors like management consulting, engineering project consulting etc. This exercise is recommended to be done with the help of external agencies like CDC, AIMA, Business India, The Economic Times Research Bureau or specialised trade associations for the sector of firm's operation.

Similarly, for determination of Knowledge Management Performance (KMP), the benchmark has to be decided by the company for comparison of its performance on 12 KM measures. For the illustrative case studies, the recommended framework used the benchmark as the company's own performance in previous periods. Though this benchmark serves useful purpose, it is recommended that the firms should put in place an effective "intelligence mechanism" for collecting the corresponding data on the key competitors and other associated organisations for monitoring its related performance with reference to the competition.

Finally, it is recommended that after successful working of the framework for 2-3 years, a review of the contents (list of which measures to be included for computation of KMPI value) is required - with reference to the base of KMI and also the benchmark decided for
KMP. *With time there is a necessity for on-going review of the 'contents', although the 'concept' and 'structure' of the recommended framework will remain the same.*

Limitations of This Research

For the consulting firms, knowledge management can be a defining feature of their business and a serious competitive weapon. By virtue of the nature of their business, these firms see the capacity to compete on the basis of their accumulated knowledge and expertise. Precisely for the same reason, this research study faced some limitations. To start with, at the literature review stage there was *glaring inadequacy of published literature on KM implementation in consulting companies.* The other limitation faced was *the apprehensions voiced by the respondents during primary data collection.* Practically all the respondents had to be convinced about the commitment to the confidentiality of their individual responses. The sensitivity of this issue made it necessary to leave the option of giving the organisational profile information at the individual respondent’s discretion. Despite this, as against a planned sample of 100, responses could be obtained on the ‘core data’ from 108 respondents—*though some responses did not give the identification details of their firms.*

The confidentiality issue however, placed a limitation during comparative analysis of various data subsets out of the total data of 108 responses. For analysis of some data subsets, the number of clearly ‘identifiable responses’ turned out to be less than 30 and hence the treatment for ‘small sample’ size had to be given for these subsets, as compared to the data set as a whole or the bigger data subsets (like all firms from IT sector, all firms having a KM system or all Indian firms, etc.).

Another ‘limitation’ of this research relates to differing status of ‘maturity level’ of various organisations in knowledge management. The research was of course, bounded in scope to *consulting firms based in India.* At the field research stage however, a widely differing level of awareness, knowledge and maturity about knowledge management was encountered even within the bounded scope of research. Comparison of the two case
firms given in the thesis illustrates this point. Perhaps further research can also tackle the issue of widely different levels of KM maturity among Indian consulting firms.

Recommendations for Further Research

The current work forms the basis for monitoring and continuously improving the knowledge management performance of the consulting companies. Since the responses from IT consulting sector comprised a significantly large portion, all IT firms in India can directly benefit from this work. In addition, however the current study has the potential to initiate a stream of research for different specialised consulting sectors like management consulting, engineering project consulting, education consulting, health care consulting etc. Perhaps the awareness level and maturity about knowledge management will increase further among Indian consulting companies in the next 3-5 years. Hence further research on these different sectors will perhaps be more valuable after 3-5 years.

Another dimension for further research can be the KM maturity level itself. Some further research study can bring out a ‘KMM Index’ (Knowledge Management Maturity Index) for Indian consulting companies, as a companion of KMPI brought out by the current research study.

Finally, further research is also recommended for a comprehensive longitudinal case study of an organisation which has implemented KM from scratch to see if the KM performance measures suggested in this research can be correlated with its current business strategy.