Chapter III

Conceptual Development and Research Methodology

3.1 Overview of the chapter

The present chapter focuses in detail on the concepts used and methods followed for the study. While Section 3.2 elaborates on the nature and scope of the study, Section 3.3 focuses on the data sources used. Section 3.4 describes the questionnaire design process for both Phase I and Phase II study including concept development and pre-testing. Section 3.5 provides a discussion on the sampling framework while Section 3.6 details the procedure of data collection. Section 3.7 justifies the sample size of the study and Section 3.8 briefs on the criteria for establishing validity and reliability. Section 3.9 gives a detailed account of the statistical tools and techniques deployed and Section 3.10 makes a note of recoding while the concluding section is devoted to limitations of the present research.

3.2 Nature and scope of the study

The study titled ‘An Exploratory Study of Human Resource (HR) Opportunities and Challenges in Knowledge Process Outsourcing (KPO) Companies in India’ is exploratory in nature and employs both quantitative and qualitative data collection and data analysis. Data collection is both quantitative and qualitative with the use of open and closed-ended questions. Data analysis is predominantly quantitative via descriptive statistics. It also includes the use of statements to expand the results using open-ended questions.

Exploratory research delves into what has previously not been studied and attempts to identify new knowledge, insights, understandings, and meanings and explore factors related to the topic (Brink and Wood, 1998). The purpose of the present study is exploration as the survey literature failed to reveal any significant
research in the area. As an exploratory study it focused on studying a relatively new area. The exploratory approach is supported by Nieswidomy (2008) as the method to use when there is limited knowledge on the topic. Through the use of this approach, the detailed study of companies in the area of knowledge process outsourcing has been undertaken to explore the human resource opportunities and challenges in view of the present trend and practices. It was anticipated that this research study would offer an insight and address issues specified in the objectives through the use of four survey tools which were developed for this exploratory study with both quantitative and qualitative facets.

The scope of the study has been discussed as under:

1. KPOs selected for the purpose of the study are both big and small sized units with varying staff strength, foraying into varied KPO segments.

2. Three HR questionnaires though seek participation from senior or top level persons in the HR department of the concerned KPO but persons in the middle level nominated by the Chief Executive Officer (CEO)/Chief Operating Officer (COO) of the company have also been considered as respondents. Thus, any one of the following have been selected as respondents based on both designation and approachability i.e. Assistant HR Manager, HR Manager, Head HR, Director HR, Vice President (VP) HR, President HR or any other similar designations used by the participating KPOs.

3. The study limits itself to asking questions pertaining to HR opportunities and HR challenges based on their meaning formulated for the purpose of research. For the HR opportunities the focus has remained on trying to explore the HR perspective regarding the kind of expectations KPOs have from potential hires and what they offer in return. Also, focus has remained on trying to capture
the everyday challenges HR faces in people management in the broad areas of
talent acquisition, compensation, training and development, performance
management and talent retention.

4. The employee opinion survey focuses on getting responses of employees of
junior and middle level (other than in HR department and indirect staff) from
select KPOs actually involved in providing knowledge intensive services on
select HR practices, the nature of work and overall satisfaction levels in an
attempt to identify key areas requiring attention and improvement.

3.3 Sources of data

The study uses data obtained from both primary and secondary sources.

3.3.1 Data collection from secondary sources

Secondary data is data which has been collected by individuals or agencies for
purposes other than that of a particular research study. A great deal of potentially
useful secondary information already exists within enterprises (Crawford, 1997). The
concept, meaning, trends in the KPO sector as also all the published statistics about
its prospects in India has been made available through information contained in
industry reports, white papers, magazines, newspapers and relevant websites. The
researcher also attended conferences in the area of study to collect pertinent
information. All the sources used have been referred to during the course of the
study.

3.3.2 Data collection from primary sources

Primary sources provide first-hand testimony or direct evidence concerning a topic
under investigation (Yale University, 2008). In the present study it is the data
collected from KPOs in India. This has been collected through structured and
undisguised questionnaires at two different levels i.e.
1. Three questionnaires for the HR department:
   KPO: HR opportunities, KPO: HR challenges and KPO: HR practices (Refer Annexure I)

2. One questionnaire for the employees:
   KPO: Employee opinion survey (Refer Annexure II)

3.4 Questionnaire design

“A questionnaire is a pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives” (Sekaran, 2006, p. 236). They are a valuable method of collecting a wide range of information from a large number of respondents. The four main questionnaires for the research were designed specifically for this study after undergoing the following process:

3.4.1 Questionnaire design and concept development: Phase I study

A structured questionnaire was designed for the Phase I study (Refer Annexure III) with the following inputs:

1. Interacting with HR experts in select KPOs in the National Capital Region (NCR); considering generally applicable meaning of the terms ‘HR opportunities’ and ‘HR challenges’ in the KPO industry

2. Presentations in conferences by speakers from the outsourcing industry

3. Guidance by supervisors

77 experts in the area of HR of both industry and academia were approached personally and/or through mail/e-mail to help the researcher formulate and find the following:

1. Meaning of the term ‘HR opportunities’ to be used for the research

2. Meaning of the term ‘HR challenges’ to be used for the research

3. HR practices to be studied in KPO companies
After several rounds of repeated requests the researcher was able to procure only 20 responses. All responses including open-ended ones were carefully studied and acceptable meaning of the terms ‘HR opportunities’ and ‘HR challenges’ formulated. This was further validated by seeking the opinion of HR experts in the KPO sector in the NCR, India.

The terms ‘HR opportunities’ and ‘HR challenges’ hold different meaning for different people. ‘**HR opportunities**’ for the purpose of this study means opportunities available to the HR department/function to tap human resources with the desirable skill-set and potential, engage and grow them to become a high performing work zone and further organizational objectives, contribute to the growth of the society, and its nation. Human resource opportunities are the chances for human resources to seek opportunities in organizations (here, KPOs) where a favourable or advantageous circumstance exists for them in terms of compensation, training, career development and a conducive work environment. This provides a sense of self-actualization to them and helps in building a commitment based HR (human resources).

Similarly, the term ‘**HR challenges**’ for the purpose of this study relate to managing people, the most unpredictable and complex yet the most productive assets. Human resource challenges are the challenges relating to people resources that have arisen due to globalization, economic growth, technological advancement, rapid change, expanded horizons and knowledge of the present day workforce. These entail establishing and maintaining the brand equity of HR (human resource department) by attracting, preserving and developing high caliber human resources by managing employee expectations and providing employees with an enriched employment experience that causes them to stay. To be specific human resource challenges are the
difficulties, failures to overcome, and success stories to repeat by others broadly in
talent acquisition, compensation, training and development, performance management
and talent retention.

It was decided to study broadly the talent acquisition, compensation, performance management, training and development and retention practices in select KPO companies in India. Table 3.1 provides a detailed classification of background data of experts who helped the researcher in developing the concepts used for the research by sharing their valuable opinion for Phase I study. The background data of experts is appended in Annexure IV. Examples of responses to meaning of the terms ‘HR opportunities’ and ‘HR challenges’ are appended in Annexure V and frequency output of respondents of the Phase I study is appended in Annexure VI.

Table 3.1: Classification of background data of experts - Phase I study

<table>
<thead>
<tr>
<th>S. no.</th>
<th>Basis of classification</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Managerial hierarchy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Top</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>20</td>
</tr>
<tr>
<td>2.</td>
<td>Years of experience in HR field</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More than 25yrs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>21-25yrs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>16-20yrs</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>11-15yrs</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>6-10yrs</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1-5yrs</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>Type of organization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry(Private sector)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Industry(Public sector)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Academia</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Consultant</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Any other</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total*</td>
<td>22</td>
</tr>
</tbody>
</table>

* Includes 2 experts - both in the private sector (industry) and consultant categories
3.4.2 Questionnaire design: Phase II study

Keeping in view the requirements of the present study 4 questionnaires were developed to achieve the objectives of the study. Since there are not enough studies or published literature available on the topic with respect to the KPO industry the first 3 questionnaires pertaining to HR opportunities, challenges and practices respectively were designed after interaction and in-depth discussion with 11 experts i.e. CEO/COO/HR Heads/HR Managers/Assistant HR Managers of 7 KPOs in the NCR, India. Further, literature contained in newspapers, magazines and industry reports were also considered. The fourth questionnaire on employee opinion survey was designed after extensive literature review, in-depth discussion with HR experts of 5 KPOs and taking opinion of 15 KPO employees in NCR.

3.4.2.1 Pre-testing of the designed questionnaires

A useful method for checking a questionnaire for problems is to pretest it. This usually involves giving it to a small sample of respondents, then interviewing the respondents to get their impressions and to confirm that the questions accurately captured their opinions. Keeping this in mind the designed questionnaires were again reviewed by 5 experts from the HR department of different KPO companies in NCR, India to assess the questions appropriateness, relevance, completion time and clarity. Suggestions were incorporated, changes made to suit the prevailing requirements of the industry and keeping in mind the objectives of the study. Changes were made in content, options, wording, sequencing, and number of questions. Questions with potential overlap in construct others that were vague and redundant and some which appeared irrelevant to the objectives of the study were removed. The discussion with experts confirmed the value of the questionnaire adjustments and was the basis for the
final questionnaire. There was agreement that the proposed sample respondents would be able to successfully complete the questionnaire.

Pre-testing of the employee opinion survey questionnaire was done on 15 employees of KPOs in NCR. Their suggestions were incorporated to include the employee perspective. Also, the HR experts in the KPO sector were requested to provide feedback and make suggestions on the capacity of the intended participants to be able to answer the questions as presented in the survey. An important decision made during this stage was to incorporate both the importance and satisfaction dimensions for the survey to make it more relevant.

Details of the experts consulted before and after formulating the questionnaires for the main study are appended in Annexure VII. Table 3.2 provides a summarized view of the basis on which the questionnaires for the main study were designed.

**Table 3.2: Summarized view of questionnaire design sources for the present study**

<table>
<thead>
<tr>
<th>Title</th>
<th>Design basis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KPO:HR opportunities</strong></td>
<td>Newspapers and magazines; industry reports; opinion of HR experts in select KPOs in NCR, India; discussion with supervisors.</td>
</tr>
</tbody>
</table>
3.4.3 Questionnaires for the HR department - Assistant HR Managers / HR Head / Director HR / VP HR / President HR

The 3 questionnaires begin with a cover letter introducing the research topic and the concepts under study providing an assurance about the confidentiality of information collected. The first questionnaire containing 32 questions, both open and closed-ended, pertains to HR opportunities in KPOs and addresses the first objective of the study. The second containing 16 questions, both open and closed-ended pertains to HR challenges in KPOs and addresses the third objective of the study. Likewise the third pertains to HR practices in KPOs and addresses the second objective of the study. It attempts to study select HR practices specifically in the area of talent acquisition, compensation, performance management, training and development and talent retention by way of 90 statements which measure the existence and implementation of these practices in KPOs on a 5-point scale varying from (1) which stands for ‘Almost always true’ to (5) which stands for ‘Not at all true’. Open-ended questions have also been asked to ascertain existing talent acquisition, compensation, performance management, training and development and talent retention practices in KPOs.

3.4.4 Questionnaire for the employees

The questionnaire begins with a cover letter conveying the objectives and importance of the study and while assuring of confidentiality it requests the respondents for their frank and unbiased opinion. The questionnaire contains 64 statements and 3 open-ended questions and addresses the third objective of the study. The first 54 statements (Part I) seek measure of the employee opinion towards select HR practices in their KPOs. These statements are given in two parts seeking respondent’s response to rate
each statement separately for the state of importance attached and a corresponding level of satisfaction with it. The two scales used were as under:

<table>
<thead>
<tr>
<th>Importance of the statement</th>
<th>Satisfaction with the statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 for extremely important</td>
<td>1 for completely satisfied</td>
</tr>
<tr>
<td>2 for important</td>
<td>2 for satisfied</td>
</tr>
<tr>
<td>3 for neither important nor unimportant</td>
<td>3 for neither satisfied nor dissatisfied</td>
</tr>
<tr>
<td>4 for unimportant</td>
<td>4 for dissatisfied</td>
</tr>
<tr>
<td>5 for extremely unimportant</td>
<td>5 for completely dissatisfied</td>
</tr>
</tbody>
</table>

The next 7 statements (1 to 7, Part II) try to capture employees’ attitude towards their nature of work on a *Likert* scale varying from strongly agree (1) to strongly disagree (5). Eight statement (8, Part II) attempts to know the overall satisfaction level of employees in KPO. The last 2 statements (9 and 10, Part II) try to capture employees’ opinion about recommending their KPO to a friend seeking employment and their opinion about switching over to another industry. The 3 open-ended questions try to seek answers to reasons because of which employees joined, continue to stay and would leave their KPOs. Table 3.3 provides a summary of the number of questions and the approximate time required to complete each questionnaire of the main study.

**Table 3.3: Number of questions and time required to complete the questionnaires**

<table>
<thead>
<tr>
<th>Questionnaire title</th>
<th>Number of questions / statements</th>
<th>Approximate time required to fill the questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPO:HR opportunities</td>
<td>32 (open and closed-ended questions)</td>
<td>10-12 minutes</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>16 (open and closed-ended questions)</td>
<td>7-8 minutes</td>
</tr>
<tr>
<td>KPO:HR practices</td>
<td>90 statements; 5 (open-ended questions)</td>
<td>10-12 minutes</td>
</tr>
<tr>
<td>KPO:Employee opinion survey</td>
<td>54 pairs of statements; 10 statements; 3 (open-ended questions)</td>
<td>5-7 minutes</td>
</tr>
</tbody>
</table>
3.5 Sampling framework

Details about source material from which the sample of the study was drawn have been elaborated as under:

3.5.1 Sampling method for KPOs

Out of the KPOs approached in India based on a list compiled by Evaluerserve, Scope-e-Knowledge and Business India (August 29-September 11, 2005), articles in newspapers and magazines about KPOs and referrals from KPOs approached, a sample size of 32 KPOs was generated based on the willingness of the respondents to participate in the research. The sampling method is therefore both purposive and snowball sampling as it relies on referrals from initial subjects to generate additional subjects. Purposive sampling is defined by De Vaus (2002, p. 90) as “a form of non-probability sampling where cases are judged as typical of some category of cases of interest to the researcher”. Patton (1990) indicated that purposeful sampling enables the researcher to select “information-rich cases” (p. 52) that best address the objectives of the study. He also suggested that a small sample size is adequate given the richness of the data provided.

3.5.2 Sampling method for HR personnel

Within the KPO sampling method is purposive and judgemental based on the HR personnel’s designation and ability to provide relevant information.

Sampling unit

Sampling unit are KPOs.

Sample size

Sample size is 32.

Subject
Subjects are 32 (VP HR /Director HR /HR Heads /HR Managers/Assistant HR Managers).

Sample area (Extent)
Sampling extent are cities of India, namely New Delhi, Gurgaon, Noida, Ahmedabad, Mumbai, Chennai, Hyderabad, Bangalore.

3.5.3 Sampling method for employees (Employee opinion survey)
Based on approachability and willingness to participate by KPOs, and point of contact being the concerned individual in the HR department, a final sample of 157 respondents from 9 KPOs complete in all aspects was used in the research.

Sampling unit
Sampling unit are KPOs.

Sample size
Sample size is 157.

Subject
Subjects are 157 employees at junior and middle level other than in HR department and indirect staff as respondents from select KPOs actually involved in providing knowledge intensive services to the client outsourcing these services.

Sample area (Extent)
Sampling extent is the NCR, India.

3.6 Procedure for data collection
The researcher approached the office of National Association of Software and Services Companies (NASSCOM) in New Delhi, but failed to get a list of all KPOs operating in India. The National Outsourcing Association (NOA)\(^3\), a non-profit organization that represents the interests of outsourcing end users, suppliers and support services with focus on delivering education, excellence and collaboration
opportunities in all areas of outsourcing including information technology outsourcing (ITO), business process outsourcing (BPO) and KPO also did not maintain any such list. Also a couple of websites setup to create awareness about, provide news related to and list all the KPO companies were still under construction and requesting all KPOs to register themselves with them. With these limitations for the purpose of the study the researcher relied on a compiled list prepared for the study (Refer Para 3.5.1) Moreover, even till the time of submission of the thesis there was no comprehensive list of KPOs available with NOA, NASSCOM or any individual KPO.

Using the compiled list, the population of KPOs was approximated to be 136 at the time of data collection. The researcher tried obtaining the contact details of all these KPOs through the help of Google search engine, University School of Management Studies (USMS), Guru Gobind Singh Indraprastha University (GGSIPU) placement cell and other personal contacts. Despite all these efforts the researcher could not procure contact details of all the KPOs mentioned in the list or further contact with all. The following were the reasons for this:

1. Google search could not locate/generate websites of all the KPOs. Of those generated, contact details were either unavailable or incomplete, or their websites were under construction due to which further communication could not be established.

2. Wherever even contact details could be obtained a lack of awareness and understanding of their names appearing as a KPO and accordingly non-acknowledgement about the same became another hurdle in the process.

3. Another impediment in the process where contact details could be procured was instantaneous refusal by front office to provide any further details or information about the concerned representative from the HR department for
such research initiatives as part of their company policy. Wherever the researcher could get a step ahead in the process such requests were refused by the concerned individual in the HR department due to strict confidentiality norms or paucity of time. Further wherever possible, the researcher tried directly contacting the CEO/COO of the respective companies to evoke a positive response of participation by conveying directly and confidently the purpose of the study.

4. Finally, where initial requests were entertained, later such help was denied due to the same reasons as stated above.

To help build response rates for the study a cover letter was also sent to the CEO/COO/HR Head of KPOs from whom participation was sought both through e-mail and personal mail under the signature of the Dean, USMS, GGSIPU. These were followed up with phone calls and/or e-mails to set a time for the researcher to visit the respondents at their work place. The number of firms primarily into KPO domain being limited, and the response rate not encouraging in Delhi and the NCR, the researcher decided to approach KPOs in other cities of India too. This was done through telephone or e-mails and not personal visits due to time and financial constraints. Numerous personal visits were made though in KPOs in Delhi and NCR. Thus, it was a daunting task for the researcher to get a response and seek participation of KPOs despite umpteen requests. With all these efforts positive responses were obtained from a few KPOs in Mumbai, Chennai, Hyderabad, Bangalore and Ahmedabad. The researcher was thus able to tap responses from majority of the key KPO concentrates in India and finally 32 KPOs agreed to be part of the study. The request for an employee opinion survey was initially refused by almost all the KPOs due to confidentiality reasons. Also the researcher was asked to commit in writing that
the identity of the companies would no where be disclosed in the thesis. Only after a letter was sent to the companies convincing them about the same was the researcher allowed to approach the concerned respondents. Out of the 32 big and small KPOs who finally participated in the HR survey of the study, after persistent persuasion only 9 agreed to provide help for the employee survey. Moreover KPOs which allowed employee participation were non-committal regarding the number of responses they could provide. Of the 521 questionnaires accepted by key HR personnel of KPOs for distribution, only 173 responses were received of which 157 were complete in all respects. These form the basis of the study. Primary data collection process for the main study continued for a period spanning December 2006 to September 2007.

3.7 Sample size justification
At the time the topic for research was finalized and registered in USMS, GGSIPU the acronym KPO and its whole concept had just started picking up. Any information about it was scattered and available only through a few reports, newspapers, magazines and websites. Thus, despite little information and not much co-operation from KPOs, the researcher decided to explore the territory considering that research with whatever is available in an unexplored area was worth the effort that could set a foundation for future related research.

‘In practice, the complexity of the competing factors of resources and accuracy means that the decision on sample size tends to be based on experience and good judgement rather than relying on a strict mathematical formula’ (Hoinville et al., 1985, p.73). Thus, a prevalent belief among researchers that bigger the sample the superior the study becomes is not essentially true as the eventual sample size is a compromise between what is desirable and what is feasible (Varkevisser et al., 2003). While noting the importance of sampling in empirical investigation, Robson (1999)
points out that judgement is intrinsic in sampling. Further, Anderson (2004, p. 211) states that ‘there are no hard and fast rules about sample size and selection…such issues require judgement and justification on the part of the researcher’.

Since this research investigates the dynamic scenario of HR opportunities and challenges (rather than explicating the proportionate relationships among its constituents) in an understudied area therefore the size of the study is possibly less significant and the issue of sample size has little bearing on the research’s basic motive.

With a total of 136 KPOs considered as the population for the study, selecting a minimum sample size of 30 participants (minimum number acceptable as per generally recommended sample size guidelines) would equate to about 22.05 percent (32 in this study equates to 23.52 percent). Although this percentage wasn’t the deciding point, it was more important to remember the studies’ original intent of being exploratory in a relatively untouched territory. Moreover, the researcher under the guidance of the supervisors extensively reviewed the literature on sample sizes for research and in particular exploratory research, consulted experts from both academia and industry to corroborate the decision to go ahead with the limited sample size. The study nevertheless fulfills the minimum sample size criteria as elaborated in Table 3.4.
Table 3.4: References for justification of sample size for the present study

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Author(s) and Year</th>
<th>Viewpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Champion (1970)</td>
<td>About 30 cases appears to be the bare minimum for studies in which statistical data analysis is performed, although some techniques can be used with fewer than 30 cases.</td>
</tr>
<tr>
<td>2.</td>
<td>Roscoe (1975)</td>
<td>The use of statistical analyses with samples less than 10 is not suggested. In simple experimental research with tight controls (for e.g. matched-pairs design), successful research may be carried out with samples as small as 10 to 20. In most ex post facto and experimental research, samples of 30 or greater are recommended.</td>
</tr>
<tr>
<td>3.</td>
<td>Yu and Cooper (1983)</td>
<td>A response rate of above 20 percent is considered desirable for survey findings.</td>
</tr>
<tr>
<td>4.</td>
<td>Gay and Diehl (1992)</td>
<td>Generally the number of respondents considered good enough for a study depends upon the type of research involved - descriptive, correlational or experimental. For descriptive research the sample ought to be 10 percent of the population. But if the population is small then 20 percent may be required. In correlational research at least 30 subjects are required to establish a relationship.</td>
</tr>
<tr>
<td>5.</td>
<td>Alreck and Settle (1995)</td>
<td>It is seldom considered necessary to sample more than 10 percent. For that reason, if the parent population is 1400, the sample size should be about 140.</td>
</tr>
<tr>
<td>6.</td>
<td>Isaac and Michael (1995)</td>
<td>In cases of exploratory research sample sizes of 10 to 30 are adequate.</td>
</tr>
<tr>
<td>7.</td>
<td>Abranovic (1997)</td>
<td>There is rarely justification in behavioural research for sample sizes of fewer than 30 or greater than 500. Samples larger than 30 ensure the researcher the benefits of central limit theorem.</td>
</tr>
<tr>
<td>9.</td>
<td>Burns and Groove (2005)</td>
<td>There are no hard and fast rules about sample size but there should be as a minimum 30 respondents.</td>
</tr>
<tr>
<td>10.</td>
<td>Denscombe (2007)</td>
<td>Whatsoever the theoretical issues, surveys and sampling are often used in small-scale research involving between 30 and 250 cases. Considering the limitations are acknowledged, the limited size of the sample need not invalidate the findings.</td>
</tr>
</tbody>
</table>
Another aspect which needs to be addressed is regarding responses shrinking to a little less number in case of open-ended questions. This exploratory research is primarily based on closed-ended questions for which the response rate is never less than the minimum prescribed by guidelines already mentioned above. A few open-ended questions were used as an additional information seeking exercise, with previous knowledge that they might be skipped due to paucity of time on part of representatives from the HR department and confidentiality norms to be adhered to by the KPOs participating in the research. It was realized that the participation of KPOs was a result of extreme persuasion and the inclusion of open-ended questions was thus a hopeful attempt to gain insights and gather more specific information from them. Also, the results obtained through these did provide useful information as verbatim responses. Getting a few responses for these did not defeat the purpose of research as most of these were already a part of the closed-ended questions. Though these responses came as a surprise they were a value addition and in no way alter the findings.

Further, Ritchie et al. (2003) assert that just one incidence of a piece of data, is all that is needed to make certain that it is included as part of the analysis framework and is potentially as valuable as many in understanding the process behind a subject / issue.

Thus considering the quality of responses albeit constraints in data collection in the KPO sector, extensively reviewing literature on appropriate sample size, consulting experts on the same about appropriateness of 32 as sample size in case of this exploratory research, it is strongly felt that the sample size of this exploratory research in an understudied area is satisfactory and not a small number by any standard to capture the dynamics of the sector.
3.8 Validity and Reliability

Validity refers to the extent to which a test measures what we actually wish to measure. Face validity is determined by judgements made by the researcher and based on surface appearance. Content validity refers to the degree that one has representatively sampled from that domain of meaning. It is determined by expert judgements of the appropriateness of the contents of a measure (Kelly, 1998).

Reliability of a measure indicates the extent to which it is without bias and hence ensures consistent measurement across time and across the various items in the instrument (Sekaran, 2006). It is the indicator measuring ‘something’ consistently and dependably. Reliability of the three questionnaires for the HR department comprising questions involving interval-type data has been estimated through the Cronbach’s Alpha coefficient of internal consistency. Reliability of the employee opinion survey questionnaire has been estimated using test-retest reliability method to establish stability of the measure and also Cronbach’s Alpha coefficient of internal consistency. The three main components to test-retest method are as follows:

1. Implement the measurement instrument at two separate times for each subject.
2. Compute the correlation between the two separate measurements.
3. Assume there is no change in the underlying condition (or trait being measured) between test 1 and test 2 (Colosi, 1997).

Cronbach’s Alpha splits all the questions on the instrument in all possible ways along with computing correlation values for them. In the end, the computer output generates one number for Cronbach’s Alpha. It’s reliability coefficient generally ranges between 0 and 1, though, there is in fact no lower limit to the coefficient. The nearer Cronbach’s Alpha coefficient is to 1.0 the better the internal consistency of the items in the scale. On the basis of the formula \( \alpha = \frac{r_{kk}}{1 + (k -1) r} \) where k is the number of
items considered and $r$ is the mean of the inter-item correlations. The size of alpha is arrived at by including both the number of items in the scale and the mean inter-item correlations (Gliem and Gliem, 2003).

**The specific validation processes used were:**

1. Content validity
2. Construct validity using exploratory factor analysis wherever appropriate and applicable
3. Reliability and internal consistency using *test-retest* reliability and *Cronbach’s Alpha* correlation coefficient

In the absence of substantial studies or published literature available on the topic in the KPO industry the three questionnaires for the representative from the HR department were designed after taking inputs from HR experts in the KPO industry and academia, through standard books on human resource management (HRM) and reviewing literature contained in newspapers and magazines about the KPO industry. Further Phase II of the study involved pre-testing of the designed questionnaires by administering it to HR experts of KPOs in NCR (Refer Para 3.4.2). This established its content validity through expert assessment. Thereafter pre-testing of the employee survey questionnaire was done by taking opinion of employees from companies into KPO. The necessary changes and suggestions were incorporated as per their expressed opinion. In this sense, the questionnaire had content validity.

Specifically, considering guidelines regarding unsuitability of factor analytical methods for a small sample and a low ratio of observations to variables (Hair *et al.*, 1998), *Bartlett’s* test of sphericity (significantly large) and *Kaiser-Meyer-Olkin’s (KMO)* measure of sampling adequacy (greater than 0.6) to determine the factorability of the matrix as a whole (Coakes *et al.*, 2007) with sample size of 32
respondents from HR department for the HR questionnaires it was inadvisable to use techniques like factor analysis to summarize variables into a few factors in case of the third (III) questionnaire on HR practices. Table 3.5 provides a few additional references in support of the non-use of factor analysis and Table 3.6 provides a few references to justify the usage of items under a scale using Cronbach’s Alpha value, a reliability measure.

However, exploratory factor analysis was aptly applied on gap scores (difference between importance and satisfaction items) of the employee opinion survey questionnaire. All items except one in the 9 factors identified had factor loadings above the cut-off value (0.4) impressing their importance and meaningfulness to the factors in the light of recommendations by Hair et al. (1998).

Table 3.5: References for justification of non-use of factor analysis for questionnaire (III) on KPO: HR practices

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Author(s) and Year</th>
<th>Viewpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gorsuch (1983)</td>
<td>Recommended 5 subjects per item, with a minimum of 100 subjects, regardless of the number of items.</td>
</tr>
<tr>
<td>2.</td>
<td>Hatcher (1994)</td>
<td>Recommended that the number of subjects should be the larger of 5 times the number of variables, or 100.</td>
</tr>
<tr>
<td>4.</td>
<td>Costello and Osborne (2005)</td>
<td>Empirically tested the effect of sample size on the results of factor analysis reporting that larger samples tend to produce more accurate solutions.</td>
</tr>
</tbody>
</table>
Table 3.6: References for justification of non-use of factor analysis but use of Cronbach’s Alpha value to justify the usage of items under a scale

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Author(s) and Year</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Edgar and Geare (2005)</td>
<td>No factor analysis done. A 20-item scale consisting of statements about HRM practice was used to assess the strength of HRM practices (5 items for each of the four functional areas). Alpha coefficients for the 5 item measures relating to each of the 4 areas of human resource management (HRM) practice examined ranged from 0.83 to 0.88 suggesting high internal consistency.</td>
</tr>
<tr>
<td>2.</td>
<td>Tessema and Soeters (2006)</td>
<td>No factor analysis done. 8 HR practices which included: recruitment and selection with 5 items, placement with 3 items, training with 6 items, compensation with 6 items, employee’s performance evaluation with 6 items, promotion with 3 items, grievance procedures with 3 items, pension programme (social security) with 3 items. All alphas ranged from 0.71 to 0.92.</td>
</tr>
<tr>
<td>3.</td>
<td>Ghebregiorgis and Karsten (2007)</td>
<td>No factor analysis done. The survey employed a total of 52 items grouped into 6 categories. Alpha coefficient was 0.93.</td>
</tr>
</tbody>
</table>

26 employees were administered the same questionnaire for the employee survey after a period of 2 months. The test-retest reliability coefficient revealed stability of the responses at the two time points (8 weeks apart).

**Test-Retest reliability coefficient:**

1. 54 Importance items: 0.702 **
2. 54 Satisfaction items: 0.844**
3. 7 Attitude towards work items: 0.828**
4. 3 items representing overall satisfaction: 0.868 **

(Note: **Correlation is significant at the 0.01 level (2-tailed))
Tests of internal consistency confirmed the reliability of the different scales in the questionnaires used in the study as per the guideline provided by DeVellis (2003), as their coefficient alpha score (Column V) ranged from 0.650 to 0.958 exceeding the minimal acceptable alpha of 0.65. Coefficient alpha score for 9 factors (employee opinion survey) ranged from 0.692 to 0.890 exceeding the minimal acceptable alpha of 0.65. Moreover of the 9 factors, the reliability estimates of six fell in the ‘very good’ (between 0.80 and 0.90) and two in the ‘respectable’ (0.70 and 0.80) categories.

Table 3.7 shows the reliability scores using Cronbach’s Alpha coefficient. Columns I, II and III of the table depict the questionnaire and the question details. Column IV indicates the number of items / statements in the questions and column V gives the reliability coefficient value using Cronbach’s Alpha.
Table 3.7: Reliability scores using Cronbach’s Alpha coefficient

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Question no.</th>
<th>Question type</th>
<th>Number of items / factors</th>
<th>Cronbach’s Alpha*</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPO:HR opportunities</td>
<td>4</td>
<td>Type of skills</td>
<td>12</td>
<td>0.707</td>
</tr>
<tr>
<td>KPO:HR opportunities</td>
<td>5</td>
<td>Level of skills</td>
<td>12</td>
<td>0.710</td>
</tr>
<tr>
<td>KPO:HR opportunities</td>
<td>6</td>
<td>Qualities</td>
<td>8</td>
<td>0.816</td>
</tr>
<tr>
<td>KPO:HR opportunities</td>
<td>15</td>
<td>Opportunity set</td>
<td>20</td>
<td>0.821</td>
</tr>
<tr>
<td>KPO:HR opportunities</td>
<td>23</td>
<td>Training opportunities</td>
<td>10</td>
<td>0.721</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>3</td>
<td>HR challenges in the past</td>
<td>14</td>
<td>0.902</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>3</td>
<td>HR challenges at present</td>
<td>14</td>
<td>0.919</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>3</td>
<td>HR challenges in future</td>
<td>14</td>
<td>0.924</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>4</td>
<td>Talent acquisition challenge</td>
<td>4</td>
<td>0.650</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>9</td>
<td>Training challenge</td>
<td>9</td>
<td>0.704</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>12</td>
<td>Compensation challenge</td>
<td>7</td>
<td>0.704</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>13</td>
<td>Performance management challenge</td>
<td>9</td>
<td>0.834</td>
</tr>
<tr>
<td>KPO:HR challenges</td>
<td>14</td>
<td>Work stressors</td>
<td>8</td>
<td>0.953</td>
</tr>
<tr>
<td>KPO:HR Practices</td>
<td>N.A</td>
<td>HR practices</td>
<td>90</td>
<td>0.958</td>
</tr>
<tr>
<td>Talent acquisition</td>
<td>N.A</td>
<td>HR practices</td>
<td>18</td>
<td>0.745</td>
</tr>
<tr>
<td>Compensation</td>
<td>N.A</td>
<td>HR practices</td>
<td>15</td>
<td>0.876</td>
</tr>
<tr>
<td>Training and development</td>
<td>N.A</td>
<td>HR practices</td>
<td>25</td>
<td>0.899</td>
</tr>
<tr>
<td>Performance management</td>
<td>N.A</td>
<td>HR practices</td>
<td>12</td>
<td>0.917</td>
</tr>
<tr>
<td>Talent retention</td>
<td>N.A</td>
<td>HR practices</td>
<td>20</td>
<td>0.903</td>
</tr>
<tr>
<td>KPO:Employee opinion survey</td>
<td>Part I</td>
<td>Importance-Satisfaction</td>
<td>9 factors*</td>
<td>0.692-0.890</td>
</tr>
<tr>
<td>KPO:Employee opinion survey</td>
<td>Part II</td>
<td>Attitude towards nature of work</td>
<td>7</td>
<td>0.806</td>
</tr>
<tr>
<td>KPO:Employee opinion survey</td>
<td>Part II</td>
<td>Overall satisfaction</td>
<td>3</td>
<td>0.703</td>
</tr>
</tbody>
</table>

*The details of reliability coefficients of the 9 factors have been shown in chapter IV (Refer Para 4.3.4 and Table 4.67) and also in Annexure X.
3.9 Statistical tools and techniques used

Data analysis is the process of looking at and summarizing data with the intent to extract useful information and develop conclusions. The data analysis of the questionnaire responses proceeded through a series of steps to answer the research questions. Data preparation included coding the responses according to the various options on the questionnaire, entering the data into Statistical Package for the Social Sciences (SPSS) for Windows version 13.0., checking of the data by a thorough review of all data entries and also applying random checks of specific questions to gauge the accuracy of the data entry. Microsoft Excel computer software was also used for some parts of the analysis.

Statistical tools and techniques to be used depend on the objectives of the study and nature of data. The ones used in this study were reviewed by experienced social science researchers and consulting statisticians who confirmed the tests as appropriate. They are detailed in the following sections. Table 3.8 provides an overview of specific statistical tools and techniques deployed for each of the four questionnaires to analyze the data and arrive at results. Open-ended questions in all the questionnaires are analyzed by identifying evolving patterns in the text of the questions and categorizing them into themes (Patton, 2002).
Table 3.8: Summarized view of statistical tools and techniques deployed for the four questionnaires used in the study

<table>
<thead>
<tr>
<th>Title</th>
<th>Statistical tools and techniques deployed</th>
</tr>
</thead>
</table>
| KPO:HR opportunities                 | • Descriptive statistics – Frequency and percentage, mean, standard deviation, variance, minimum, maximum, median, inter-quartile range  
  • Multiple dichotomy analysis       
  • Content analysis                   |
| KPO:HR challenges                    | • Descriptive statistics – Frequency and percentage, mean, standard deviation, variance, minimum, maximum, median, inter-quartile range  
  • Multiple dichotomy analysis       
  • Content analysis                   |
| KPO:HR practices                     | • Descriptive statistics – Mean, standard deviation, variance, minimum, maximum                           
  • Content analysis                   |
| KPO:Employee opinion survey          | • Principal Component Analysis                                                                            
  • Descriptive statistics – Mean, standard deviation, variance, minimum, maximum                           
  • Importance-Performance Analysis (IPA) used as Importance-Satisfaction Analysis (ISA) Quadrant Analysis and Diagonal Model (based on gap scores)  
  • Paired Sample t-test               
  • Independent Sample t-test          
  • Analysis of Variance (ANOVA)       
  • Content analysis                   |

3.9.1 Statistical tools and techniques adopted for KPO: HR questionnaires

To analyze the questions in the first and second questionnaires containing nominal, ordinal and interval-type data descriptive statistics have been used. As it was inadvisable to use techniques like factor analysis to summarize variables into a few factors for questionnaire (III) on HR practices (Refer Para 3.8 and Table 3.5), it was therefore considered most appropriate to use descriptive statistics on all the items to identify the top ten and bottom ten HR practices. Descriptive statistics were calculated and the values (means and standard deviations) of the variables helped to examine the items individually. Each HRM practice mean was tested against the value of 3, which holds a moderate value in the 5-point scale. The mean values help to further examine
the degree of agreement and disagreement for each of the variables, because it provides an average value for a data set. The values of the standard deviation have been helpful to test the variation in perceptions among the respondents and to compare it with the mean values.

3.9.2 Statistical tools and techniques adopted for KPO: Employee opinion survey

For the fourth questionnaire on employee opinion survey neither the individual importance nor individual satisfaction items were satisfactory for providing insights into what the employees want. An item may be rated by an employee as extremely important, but without satisfaction data it does not necessarily indicate a problem. Similarly the significance of an item becomes questionable even if it is high on satisfaction, if it lacks in importance. Hence, a key focus of the research was the use of IPA as ISA. The details of the meaning, relevance and application of these techniques have been demonstrated in subsequent sections (Refer Para 3.9.2.1, 3.9.2.2., 3.9.2.3 and 3.9.2.4).

The results for the first part are arrived at using both Quadrant Analysis (Martilla and James, 1977) and the Diagonal Model (Bacon, 2003; Hawes and Rao, 1985; Skok et al., 2001) and besides deploying means and standard deviations it also makes use of exploratory factor analysis of gap scores (which revealed 9 factors) and Paired Sample t-test. In Quadrant Analysis technique ‘data-centered quadrants’ were used as the basis for setting the midpoints of ISA. The quadrant model was combined with the diagonal model to show the ‘Iso-rating line’ based on a slope where importance equalled satisfaction to provide additional information for the analysis. This was done on factors derived through exploratory factor analysis. The aim behind the use of two-fold analysis is to get an enhanced perspective of the areas of employee importance through useful decision making model that aids KPOs in dealing with
employee issues which is a major HR challenge. Though the items in the employee opinion survey are all likely to be of some relevance but it is their relative importance and satisfaction that the study tries to determine through the application of ISA. This forms the basis of a reliable technique that can be of use in strategy development by pinpointing areas which need attention and accordingly appropriate action for resource allocation decisions in the KPO context. Thus, analysis of the most important factor in the employee opinion survey drew on an interpretation of both the Quadrant Analysis and Diagonal Models.

For the second part of the questionnaire involving employee attitude towards the nature of work, foremost the exploratory factor analysis was performed on the 7 items of Likert scale using Principal Component Analysis method to identify the underlying factors. Descriptive statistics were then used to analyze the data and arrive at results. The results involving overall satisfaction have been arrived at using descriptive analysis where overall satisfaction is operationalized as the composite score of 3 items (8, 9 and 10, Part II) to arrive at the ‘grand’ mean for overall satisfaction. To complement the direct question of overall satisfaction, an additional measure has been used in the literature to signal job satisfaction (Janson and Martin, 1982): whether one would recommend the workplace to a friend. Participants in this survey were asked about the extent to which they agreed or disagreed with the statement: ‘I will recommend this KPO to a close friend of mine seeking employment’. Another measure used relates to switching job to another industry. Here too, exploratory factor analysis was performed on the 3 items of Likert scale using Principal Component Analysis method to identify the underlying factor.

Gratton and Jones (2004) indicated that inferential statistics let the relationships between dependent and independent variables to be explored by testing a
null hypothesis. The statistical tests establish whether the relationships among variables were a function of chance or are probably because of the variables covered. Hypotheses have been formulated for the employee opinion survey relating to both determining of differences within the respondent group and differences between groups of respondents. Table 3.9 depicts the list of hypothesis statements formulated in the present research.

1. **Differences within the respondent group**

Differences within the respondent group were explored via *Paired Sample t-test* to determine the difference in the importance and satisfaction ratings of the 9 constructs identified by the study. It was useful to gain this insight because it provided more validity in the subsequent analysis of the differences between importance and satisfaction to know if these had statistically different mean scores.

2. **Differences between groups**

Determination of differences among groups of respondents is a usual statistical procedure that evaluates whether the differences of two or more samples are a result of chance or else they are the result of the effect of a particular variable. Determining differences between groups of respondents is also a key technique of *IPA* (used here as *ISA*). The two tests to determine the differences among groups are the *Independent Sample t-test* and *ANOVA*. The *Independent sample t-test* explores the significance of the differences of mean scores between two different groups. *ANOVA* is similar to the *Independent Sample t-test* except that it permits the analysis to determine differences between more than two groups (Gratton and Jones, 2004).
Four constructs that were mentioned as being important in both the analyses (Quadrant Analysis and Diagonal Model) (Refer Table 4.68) were:

**Factor 2:** Career planning and development

**Factor 4:** Training and education

**Factor 3:** Performance management

**Factor 5:** Pay and benefits

These 4 constructs referred to as ‘ISA 4’ were used as a key focus for further analysis using the *Independent Sample t-tests* and *ANOVA*.

**Table 3.9: List of hypothesis statements**

<table>
<thead>
<tr>
<th>Hypothesis no.</th>
<th>Hypothesis statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Null hypothesis</td>
<td>There is no difference in the importance and satisfaction rating of each of the 9 constructs identified by the study.</td>
</tr>
<tr>
<td>H2a Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by gender.</td>
</tr>
<tr>
<td>H2b Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by job level.</td>
</tr>
<tr>
<td>H2c Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by age.</td>
</tr>
<tr>
<td>H2d Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by education level.</td>
</tr>
<tr>
<td>H2e Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by salary.</td>
</tr>
<tr>
<td>H2f Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by years of experience in their present organizations.</td>
</tr>
<tr>
<td>H2g Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by years of total work experience.</td>
</tr>
<tr>
<td>H2h Null hypothesis</td>
<td>There are no differences in the employee gap scores ‘ISA 4’ by job category.</td>
</tr>
</tbody>
</table>
Table 3.10 depicts a few references justifying the usage of the application of the technique of exploratory factor analysis of gap scores.

### Table 3.10: References for justification of application of technique of exploratory factor analysis of gap scores

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Author(s) and Year</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Ready <em>et al.</em> (2007)</td>
<td>Measurement of students’ perceptions of acquired competencies reflecting their integrated business knowledge before and after taking a strategy / capstone course as the focal course of business knowledge integration in the school’s program.</td>
</tr>
</tbody>
</table>

#### 3.9.2.1 Importance-Performance Analysis (*IPA*) technique - An overview

*IPA* technique was introduced more than 30 years ago by Martilla and James (1977) to assess the elements of an automobile dealer’s marketing efforts by focusing on both importance and performance attributes. Since then it has been in extensive use in research and practice alike (Eskildsen and Kristensen, 2006). Although both importance and performance facets yield valuable information individually, collectively their potential is greatly enhanced (Graf *et al.*, 1992; Levenburg and Magal, 2005; Martilla and James, 1977; Shaw *et al.*, 2002). By prioritizing and guiding the approach route to lessen importance-performance mismatches (Graf *et al.*, 1992; Skok *et al.*, 2001) it improves operational efficiencies via resource redistribution suggestions and recommendations (Graf *et al.*, 1992; Slack, 1994).
It has been applied per se or as ISA in different formats/ variations in multiple settings like – the automotive industry (Martilla and James, 1977), health care (Cunningham and Gaeth, 1989; Dolinsky, 1991; Hawes and Rao, 1985), health clubs (Skok et al., 2001), hospitality/tourism (Aktas et al., 2007; Bramwell and Rawding, 1996; Joppe et al., 2001; Tonge and Moore, 2006; Weber, 2000), banking (Joseph et al., 2005; Yeo, 2003), food services (Burns, 1986; Sampson and Showalter, 1999; Sethna, 1982), housing (Hawes et al., 1982), education (Alberty and Mihalik, 1989; Hawes and Glisan, 1983; Mugdh, 2004; O’Neill and Palmer, 2004; Roskowski, 2003), transportation (Huang et al., 2006), online library services (O’Neill et al. 2001), construction (Yang and Peng, 2006), information systems (IS) (Ainin and Hisham, 2008) and insurance services (Tsoukatos, 2008) among others.

The appeal of the technique lies in its easy application and simple presentation of data to guide strategic decisions (Bacon, 2003; Crompton and Duray, 1985; Guandagnolo, 1985; Hawes and Rao, 1985; Hollenhorst et al., 1992; Levenburg and Magal, 2005; Martilla and James, 1977; Oh, 2001; Ritchie, 1998; Ritchie and Priddle, 2000; Skok et al., 2001) and its importance and constancy has been widely tested (Skok et al., 2001). The literature pertaining to the simultaneous consideration of importance and performance has followed two courses – Gap Analysis and Importance-Performance maps (Bacon, 2003).

3.9.2.2 Gap Analysis - An overview

Gap analysis surfaced in the late 1970’s and early to mid 1980’s as a technique to go past simply measuring client satisfaction via analyzing the gap between expectations and satisfaction with a product or service (Gronroos, 1978; Churchill and Suprenaut, 1982; Parasuraman et al., 1985). It centers on identifying performance gaps, which are usually measured as performance minus importance (O’Neill et al., 2001; Skok et
al., 2001; Shaw et al., 2002). Using the analysis, O’Neill et al. (2001) discovered underperformance on 16 out of 18 attributes of online services provided by a university library. Similarly, Shaw et al. (2002) ascertained that gap analysis is thoroughly grounded and can be appropriately used in an IS context and applied this technique to measure service quality of IS/information technology (IT) systems while Wright and Geroy (2001) employed it to analyze the effect of training on employee productivity.

3.9.2.3 Importance-Performance maps – Quadrant Analysis

Importance-Performance maps entail plotting the mean ratings for importance and performance on a two-dimensional grid to create a four-quadrant matrix that discerns areas needing improvement and those of effective performance (Graf et al., 1992; Skok et al., 2001). While quadrant I (high importance/low performance) labeled ‘concentrate here’ represents key challenges demanding top priority and immediate redressal (Graf et al., 1992), quadrant II (high importance/high performance) labeled ‘keep up the good work’ signifies strengths of the organization requiring maintenance of a status quo (Graf et al., 1992). If constituents positioned in quadrant III labeled ‘low priority’ (low importance/low performance) do not pose a risk to the organization (Barsky and Labagh, 1992), their withdrawal may be considered (Crompton and Duray, 1985). Quadrant IV (low importance/high performance) labeled as ‘possible overkill’ denotes insignificant strengths of the organization suggesting resource redirection elsewhere.

Conclusions are drawn from the location of attributes on the grid and the placement of the axes is vital/decisive (Crompton and Duray, 1985) needing incisive judgement (Martilla and James, 1977). The axes can be placed in various forms namely median values (Crompton and Duray, 1985), scale midpoints (Skok et al.,
2001; Oh, 2001), and weighted mean for importance (Dolinsky, 1994), nevertheless placement based on means is most prevalent (Martilla and James, 1977; Crompton and Duray, 1985; Graf et al., 1992; Weber, 2000; O’Neill et al., 2001).

The argument centers on the application of the ‘scale mean’ or the ‘actual mean’ or which Bacon (2003) termed the ‘scale-centred quadrants’ or ‘data-centred quadrants’ when positioning the quadrants for the *IPA* grid. Oh (2001) proposed the use of the scale means since they were more likely to offer a simple description of the results than the actual means. Bacon (2003) tested the ‘scale-centred quadrants’ and ‘data-centred quadrants’ together with the diagonal line model and found that the ‘data-centred quadrant’ model was better. It was thus used as the basis for setting the midpoints of the *ISA* grid. Figure 3.1 depicts an importance-performance grid which has been used in the present study using satisfaction instead of performance.

**Figure 3.1: Importance-Satisfaction Grid**

| High | Quadrant I  
(High importance, Low satisfaction)  
*Concentrate here* |
| --- | --- |
| | Quadrant II  
(High importance, High satisfaction)  
*Keep up the good work* |
| Low | Quadrant III  
(Low importance, Low satisfaction)  
*Low priority* |
| | Quadrant IV  
(Low importance, High satisfaction)  
*Possible overkill* |

**Source:** Adapted from Importance-performance analysis. *Journal of Marketing*, Martilla and James, 1977, p.78.
The labels used in the four quadrants are taken from Martilla and James (1977) concept of IPA. In quite a few cases the names of the quadrants are based on a strength, weakness, opportunity and threat (SWOT) analysis. The top left quadrant is labeled as a ‘threat’; the top right quadrant is identified as an ‘opportunity’; the bottom left quadrant as a ‘weakness’; and the bottom right quadrant as a ‘strength’ (Ritchie, 1998).

3.9.2.4 Importance-Performance maps – Diagonal Model – Iso-rating / Iso-priority line

A 45-degree diagonal line called the ‘Iso-rating line’ or ‘Iso-priority line’ introduced by Hawes and Rao (1985), extending from bottom left to the top right quadrant was recommended for isolating the items of differing priorities. Points above the line represent items whose importance exceeds performance indicating priority areas for improvement and those below indicate the opposite whereas points along the line have the same priority for improvement (Bacon, 2003; Hawes and Rao, 1985; Levenburg and Magal, 2005; Skok et al. 2001).

3.10 Recoding

Data analysis has been done after recoding all interval-type scale items in the four questionnaires in a manner such that ‘1’ stands for the least and ‘5’ for the highest value.

3.11 Limitations of research

The analysis here has been exploratory and fraught with limitations too. Nevertheless, the results presented can ideally help guide further investigations. Considering the nature, objectives, scope and the methodology used the following were the limitations of the study:
1. Request of participation in the study was not allowed to be put forward in some KPOs due to strict confidentiality issues.

2. A personal discussion with HR Heads was not allowed in some KPOs.

3. In some cases questionnaires were taken but no response was obtained in spite of several solicitations/follow ups.

4. Direct employee interaction of any kind, for the employee survey was denied by most KPOs approached in compliance with company rules and only select KPOs in NCR agreed to their employee participation after umpteen requests on the condition of the survey being done through the HR department.

5. Questionnaires returned were incomplete in some cases with regard to open-ended questions with only a few sharing detailed answers and others refusing to give complete details due to confidentiality norms of their respective companies.

6. There was no uniformity as to the number of employee survey questionnaires being filled by the KPOs offering help. It was purely on the discretion of the respective KPOs.

7. Lack of sufficient empirical studies in the field was another limitation affecting the research. Existence of previous studies could have made the foundation of this effort even more robust. However, non-availability of adequate literature on this subject was a serious challenge as well an opportunity for the researcher.

8. Since the industry comprises of highly qualified professionals providing high-end services, therefore getting responses to the questionnaires required extra efforts and time and data collection spanned almost a year.
9. Time, financial and geographic constraints prevented this study to be conducted on a larger scale, this being the limitation of an individual researcher and more so in this case.

10. The study assumed that the respondents were reflecting the state of their companies. However, there could have been some element of bias as their individual perceptions might have influenced their responses and their views may not represent the entire organizational reality.

Chapter III addressed the scope of the study, data collection sources and procedures and how the data were analyzed. Chapter IV addresses the results and discussion and chapter V presents the key findings, conclusion and implications of research.
References


Notes:

