# CHAPTER 3

## METHODOLOGY

The present study was aimed at investigating the business information needs of the Indian corporate sector. The study explored the business information needs of managers working in the Indian corporate sector and looked at their demographic, personal and organizational profiles. The main aspects of the study involved looking at the types of information that is required by them and how they access this information and their perceptions of various attributes of information that is needed by them.

The methodology applied to research into these objectives is discussed in this chapter in detail, describing the methods, techniques and procedures followed by the investigator in carrying out this study.

### 3.1. PROCEDURE OF THE STUDY

To develop a framework for conducting this study a review of existing research was conducted relevant to the topic of business information needs. The review revealed published research that could be classified in to seven main categories, as reported in the earlier chapter, and they were:

1. Models and theory of business information needs.

2. Environment scanning and strategic information needs research.

3. Business information needs study of specific business sectors.

4. Business information needs of managers working in specific functions, roles and levels.

5. Business information needs of specific types of companies from specific locations and geographical areas.

6. Business information needs of companies based on ownership by special groups like aborigines and expatriates.

7. Business information needs of companies based on size – small and medium businesses and also based on different phases like start-ups, gestation and in financial distress.

The review facilitated in identifying a context for this study in terms of focusing on Indian businesses. Building on existing research relevant to this topic the following research questions were developed:

1. What is the type of technology used at work by managers working in the Indian businesses?

2. What type of task or work related information is required by Indian businesses?

3. What are the information sources used and information media preferred by Indian businesses?

4. Is search for information by managers themselves or facilitated by others and where is the information sourced from?

5. What is the purpose of the information search and what are the perceptions of managers on the attributes of information that they consider important?

In addition to these research questions the following hypotheses were formulated to provide focus to the study.

H1:   There is no difference in information technology usage among managers working in manufacturing and services sectors.

H2:   The managers working in manufacturing sectors require similar type of information as required by managers working in the services sectors.

H3:   The manufacturing sector and services sectors use similar information sources for their business information needs.

H4: The managers working in the manufacturing sector and managers working in the services sector use the same type of information media.

H5: The managers working in the manufacturing sector search for information similar to information search by managers working in the services.

H6: The managers working in manufacturing sector perceive importance of information providers differently from their counterparts working in services sector.

H7: Purposes of information search among managers working services sector and managers working in manufacturing sector is similar.

H8: Perceptions on attributes of information that are important in fulfilling information needs by managers working in services sector and managers working in manufacturing sector are similar.

For purposes of this study, in the context of these research questions, hypotheses developed and based on earlier researches the data required was identified as follows:

1. Personal profile of the managers and for this, data was to be collected on age, educational background and work experience.

2. Work profile: Data to be collected was designation, experience, number of employees reporting to the subject, present role & functions.

3. Organizational profile: Data required was name and address, ownership, turnover, core business and total employees.

4. Technology used at work: Data was required on what technology was used at work like PC, Laptop, LAN, Internet, mobile and so on.

5. Type of information required: Data required was on type of information required at work like government and environmental, administrative, market and business sectors.

6. Information sources used like newspapers, magazines, journals, handbooks internal office memos and circulars, own files and documents, internet and websites, government publications, surveys and reports, annual reports, directories, radio and TV programmes, exhibitions, conferences and seminars.

7. Information media used for accessing information like printed, electronic or personal (oral) communication.

8. Information search conducted by self or delegated to others.

9. Information gathered from chamber of commerce, trade associations, government, libraries, institutes, information providers, friends, media, consultants, colleagues, boss, customers, suppliers or vendors.

10. Purpose of information search: Data was required on purpose of information search like decision making for routine jobs, planning and strategy, implementation and execution, skill development, help others and enhancement of knowledge.

11. Perception of attributes of information that are important for fulfilling information needs like accessibility (ease of identifying and acquiring), appropriate amount of information, reliability / credibility, completeness, concise representation of information, current and updated information, ease of use or manipulation, accuracy, provision in preferred media like paper, digital, etc, cost effectiveness, affordability, timeliness, professionalism of provider / source, relevant to the purpose that it was required for, discovered new purpose, refreshed memory of details or facts and substantiated prior knowledge or belief.

## 3.2. SOURCES OF DATA

The main sources of data for the study were the managers working in Indian businesses. In the process of developing a strategy to conduct this study, library and information science teachers, experts in business and management, namely teachers of business and management subjects, working managers, entrepreneurs and business and corporate librarians were consulted.

A thorough examination of literature in the area of business information needs provided insights into the study. The main databases used for identifying the existing literature in this study are Library and Information Science Abstracts, Library and Information Technology Abstracts, Business Source Premier, ABI Inform, Science Direct, ACM Digital, IEEE Online Library, Proquest Science, Blackwell, Oxford

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University Press, JSTOR, Sage, Springer and Taylor & Francis. Business and industry databases like Prowess of CMIE, CRISIL, ISIS Emerging Markets and Economist Intelligence Unit were used extensively for data on companies.

In addition to the above sources, papers published in Indian and foreign journals, reports of business associations and information providers, books, surveys, conference proceedings, news articles, theses, industry reports, etc available in print or in electronic form were consulted.

The information sources greatly facilitated in conceptualizing the research topic, developing a research framework for carrying out this study, developing the questionnaire and undertaking the data collection and analysis and also conceptualizing the findings of the study.

## 3.3. SAMPLING

The study population was large and consisted of people working in the Indian corporate sector. Hence the sample population for the present study also comprised of managers working in the Indian corporate sector. The total number of establishments in the organized sector as on the March 31, 2005 was 293.77 thousand and the total employment in the organized sector was estimated as 264.58 lakhs (Directorate General of Employment & Training Ministry of Labour & Employment, Government of India, 2007). As of September 30, 2002 the percentage of people

working in the category of Administrative, executive & managerial workers was about 4% of the total employed population in the public and private sector across industries (Directorate General of Employment & Training Ministry of Labour & Employment, Government of India, 2002). As this was the latest data available for both number for establishments and people working in the relevant category we can assume that the total study population was approximately 4% of 264.58 lakhs, i.e., 10,58,320.

Since it was not feasible to cover the entire study population it was decided to adopt convenient sampling and to elicit a better response, snowballing strategy for sampling was also adopted in the study.

Since the researcher, in addition to librarianship, had about seven years experience in company placements, final and summer, of MBA students, the students who were working in various sectors of Indian corporate world were approached with a letter (appendix) through email requesting them to identify participants for this survey. The mailer clearly indicated that the participants have to be in middle management or higher cadre with a minimum educational qualification of graduation. The request was made through mail to increase the response rate in study. The initial mailing was to 500 alumni of the b-school at Nirma University working in different businesses all over the country. After this initial mailing, two reminders by email were sent followed by selective phone contacts to increase the response rate and finally a total of 315 responses were received. Among the 315 responses that were received about

27 of them had not filled the complete questionnaire. Among these many had not provided data like total turnover of the company and number of employees. Again the respondents were contacted, business databases searched to fill the gaps in the responses. Finally usable responses among them were 303 and the remaining 12 of them had incomplete data filled in and the respondents were not contactable by the researcher.

The sample population consisted of 303 respondents and they were working in different sectors of the Indian corporate sector. The detailed profile is provided in the next chapter.

The sectors which were represented by the respondents were:

**Manufacturing**

Electronics

Iron, Steel & Metals

Construction & real estate

Consumer Electronics

Furniture & Consumer Durables

Automobile

Chemicals

Oil & Gas

Engineering, Welding

Electrical

Power

Textiles

Transportation

Food & Beverage

Industrial products

Pharma

Others

General / multi areas


**Services**

Industrial services

ITES

Consulting

R&D labs

BPO / KPO

Real Estate & Broking

Telecom

Media/Entertainment

Financial Services

Education / Research

Dealers

Misc. Services and Gas / LPG, Healthcare, Testing

## 3.4. DATA COLLECTION

The data collection from the identified sample was undertaken with the help of a survey instrument, the questionnaire that was developed based on the existing literature and the data needed for the research. Nicholas (2000) says "Inevitably, if large numbers of geographically scattered people are being surveyed, time and resources dictate that questionnaires should be used." Nicholas (2000) also lists the main reasons for using questionnaires in assessing information needs and the reasons include:

1.  They provide quantitative and outwardly impressive data – numerous tables, graphs and figures can be generated.

2.  Personal factors are largely removed from the questioning process.

3.  People are given time to consider the questions and to collect the necessary data.

4.  They are a boon for the shy and timid.

5.  Much of the work appears to be done for you by a large number of people, many of whom might be quite important.

Fink (1995, 15) argues that survey research is characterized by the selection of samples from a population to obtain empirical knowledge of a contemporary nature which allows generalization to be made about the characteristics, opinions, beliefs and attitudes of the entire population being studied. Dillman (1978) suggests that

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questionnaire is an appropriate tool for data collection when objective is to gather perceptions and data on a consistent set of questions from a large population of subjects located in different and varied places.

Most of the earlier studies reviewed in the literature review chapter also show that survey through questionnaire had been the most preferred research method for exploring business information needs. In some studies questionnaire survey has been supplemented by interviews and administration but in these cases the number in sample population has been less. Hence it was decided that a questionnaire will be designed and administered for data collection in the present study.

The two major disadvantages of a self-administered questionnaire (Mitchell & Jolley, 2007) are low response rate and clarifications cannot be given on real time when a respondent is filling up the questionnaire. So, it was decided that these two disadvantages should be considered while designing a questionnaire for the present study. As a consequence, the questionnaire that was designed for the study was simple and of only four pages, instructions and objectives easily understood (as evident from the pilot run) and time taken to fill the questionnaire was not much. To overcome the problem of interaction while filling the questionnaire, snowballing sample technique was adopted and each main participant (Nirma University contact) was contacted regularly to ensure better participation and also to provide clarifications that others (who had agreed to participate in the survey) might have had while filling the questionnaire.

Based on the data required, as listed in the section above – procedure of the study, about 129 data were identified to be collected under 10 main categories in the questionnaire (Appendix 2) and they were:

1. Personal profile of the managers and for this data was to be collected on age, educational background and work profile wherein data was to be collected was designation, experience, number of employees reporting to the subject, present role & functions.

2. Organizational profile: Data required was name and address, ownership, turnover, core business and total employees.

3. Technology used at work: Data was required on what technology was used at work like PC, Laptop, LAN, Internet, mobile and so on.

4. Type of information required: Data required was required on type of information required at work like government and environmental, administrative, market and business sectors.

5. Information sources used like newspapers, magazines, journals, handbooks internal office memos and circulars, own files and documents, internet and websites, government publications, surveys and reports, annual reports, directories, radio and TV programmes, exhibitions, conferences and seminars.

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8. Information gathered from chamber of commerce, trade associations, government, libraries, institutes, information providers, friends, media, consultants, colleagues, boss, customers, suppliers or vendors.

9. Purpose of information search: Data was required on purpose of information search like decision making for routine jobs, planning and strategy, implementation and execution, skill development, to help others and enhancement of knowledge.

10. Perception of attributes of information that are important for fulfilling information needs like accessibility (ease of identifying and acquiring), appropriate amount of information, reliability / credibility, completeness, concise representation of information, current and updated information, ease of use or manipulation, accuracy, provision in preferred media, cost effectiveness, affordability, timeliness, professionalism of provider / source, relevant to the purpose that you sought, discovered new purpose, refreshed memory of details or facts, substantiated prior knowledge or belief.

The categories were developed based on discussions with business and management and library and information science teachers, working managers and also consulting existing research in the area. Each point under categories from No. 3 to No. 10 were to be rated on a 5 point scale and the scale legend was: 1- Irrelevant, 2- Not Useful, 3–Somewhat Useful, 4 – Useful, 5 – Very Useful.

The questionnaire was test run among 20 people with work experience in the industry reflecting different sectors, different education background, geographical locations, different years of experience and different work profiles. The idea was to capture inputs on questionnaire from as varied as possible sample group. The test run gave useful inputs in rearranging questions in the questionnaire; include some more variables in the instrument and also to provide an opportunity to validate the questionnaire. The responses collected were subjected to reliability analysis and the Cronbach Alpha value was 0.81. Since above 0.7 is generally acceptable in research studies the questionnaire was finalized for the full run. The final questionnaire was then sent for mailing and the detailed process of data collection is provided in the previous section on Sampling.

## 3.5.    DATA ANALYSIS

The data was mainly collected through the questionnaire and in some cases where questionnaire was not complete for turnover of companies and number of employees, company and industry databases were used as reported in the data sources section.

The data was entered in Microsoft Excel for all the ten categories, explained in the previous section, for which data was collected. To address the research questions the average and percentage were calculated in categories 1 and 2. For rest of the categories the mean, standard deviation and coefficient of variation were calculated and analyzed. In the category of type of information required average mean, standard deviation and C.V (coefficient of variation) was calculated for government & environment, administrative, market and sector in addition to individual types under each of the four heads.

The hypotheses (eight) developed for study, were tested using the z test (Kothari, 1990) with the equation:

$$z = \frac{\overline{X_1} - \overline{X2}}{\sqrt{\dfrac{\sigma^2_{p1}}{n1} + \dfrac{\sigma^2_{p2}}{n2}}}$$

z = test statistic z

$\overline{X_1}$ = mean of services sector sample

$\overline{X2}$ = mean of manufacturing sector sample

$\sigma_{p1}$ = standard deviation of services sector sample

$\sigma_{p2}$ = standard deviation of manufacturing sector sample

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$n1 = 174$ (service sector sample)

$n2 = 129$ (manufacturing sector sample)

The results were reviewed whether the z score was higher than 1.95 at 5% significance level.

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