CHAPTER 2

REVIEW OF LITERATURE

2.1. BUSINESS INFORMATION NEEDS

Existing literature in this area clearly reflects a variety of papers with different focus, methodology, sampling and analysis techniques, while all the time the attempt had been to gain understanding on the information needs of the business sector as a whole. There has been a lot of research on information needs as an area though many of them are in library science discipline. Research on business information in the discipline of library science is abundant with studies on evaluation of library in a corporate setup or on business information services in an academic library setup. There are also studies on evaluating libraries as information sources for businesses. Hence the search for published research in this area was mainly drawn from management and business discipline as studies on information seeking and needs of businesses was found mainly in this area.

To begin with, the research worth mentioning is by Case (2007) wherein the research on information seeking, needs and behavior has been dealt with in detail. Case (2007) looked at the theory of Information behavior, related concepts, information seeking, information needs and its related concepts, models, paradigms and theories in study

of information behavior, methods for studying information behavior, researches by occupations, social role and demographic group and critique and review.

It is interesting to take note of Case (2007) review on the research in information behavior by occupation and he summarizes his review in Table 11.1 (p. 253) as below:

Table 2.1 Works reviewed, similar works cited, for occupation

Occupation	Works reviewed to illustrate findings	Some other relevant works cited
Scientists	Bichteler 89; Palmer 91	Bouazza 89; Brown 99; Case 86; Ellis 93; Flaxbart 01; Hallmark 01; Herman 04; Murphy 03; Palmer 96, 99; Tuominen 05
Engineers	Bruce 03; Fidel 04; Holland 85; Pinelli 91; Yitzhaki 04	Allen 69, 77; Case 86; Freund 05; Gralewska-Vickery 76; Gerstberger 68; Hertzum 00, 02; Kerins 04; King 94; Kwasitsu 03; Leckie 96, 05; Schuman 81; Tenopir 04
Social Scientists	Ellis 89, 93; Meho 03; Palmer 02; Ruvane 05; Thivant 05	Bebout 75; Belefant-Miller 01, 03; Brittain 70; Case 86; Herman 04; Hernon 84; Hogeweg 81; Paisley 65; Palmer 02; Slater 88; White 75
Humanists and Interdisciplinary	Brown 01, 02; Chu 99; Cole 98; Dalton 04; Foster 04; Meho 01, 03; Nissenbaum 89; Palmer 02; Stam 95; Talja 02	Bates 96; Bouazza 89; Caidi 01; Case 86; 91; Duff 02; Gould 88; Herman 84; King 01; Paisley 86, 90; Rose 03;

		Sievert 89; Steig 81; Stone 82; Watson-Boone 94; Westbrook 03; Wiberley 89, 94, 00; Yakel 05
Physicians	Gorman 95, 99; Osheroff 91, Timpka 90; Urquhart 98, 99, 01, 03	Covell 85; Davis 95; Donat 02; Ely 92; Haug 97; Ocheibi 03; Hjorland 02
Nurses	Cogdill 03; Gorman 02; MacIntosh-Murray 01; Sundin 02, 03, 05	Blythe 93, Corcoran-Perry 90; Haig 93; Mullaly 94; Pettigrew 00; Strother 86; Wakeham 92
Other Medical Professionals	Harrison 04; Hepworth 04; Leckie 96, 05; MacIntosh-Murray 01, 05, 06	Gorman 02; Hepworth 04; Lee 03; Marshall 93; McKenzie 04; Owen 03; Salasin 85; SteflMabry 05
Managers	Auster 93; Choo 01; Correia 01; Hirsh 04; Huotari 01; MacKenzie 03	Baldwin 97; Choo 98; Culnan 83; Daft 86, 88; Farhoomand 02; Hall 03; Hirsh 04; Kuhlthau 99; Mackenzie 02, 04, 05; Solomon 97; Swanson 87; Widen-Wulf 03
Journalists	Attfield 03; Fabritius 99; Nicholas 99	Garrison 01; Katz 89; Ross 01; Stocking 89; Zelizer 93
Lawyers	Cole 00; Haruna 01; Kuhlthau 01; Sutton 94; Wilkinson 01	Cheatle 92; Gelder 81; Hainsworth 92 (judges); Kerins 04; Leckie 96; Otike 99; Vale 88; Walsh 94
Farmers	Case 87; Leckie 96	Ekoja 04; Meyer 03; Timko 89
Other Occupations	Cobbledick 96; Ikoja-Odongo 03, 04; Wicks 99	Baker 03, 04; Baldwin 97; Davies 04; Florio 93; Stefl-Mabry 05; Stilwell 03; Harrison 04

The relevance of this review for the present research is on the group identified as managers and Case (2007) recognizes the fact that this group is quite heterogeneous in nature. The existing researches on this group (Case, 2007) look at managers as at

least being graduates or master's in business administration (p. 272) and generally considered as working in big organizations and university graduates, though earlier studies did not consider higher education as an important aspect. To facilitate a systematic understanding of research in this area we can conveniently classify the existing literature, presented in chronological order as far as possible, in the following groups:

1. Models and theory of business information needs.

   This section covers research on information needs theory, models and behavior with applications in the business context. This section also covers early literature on information needs of executives or managers to provide a framework on the topic.

2. Environment scanning and strategic information needs research.

   This section covers literature published on information needs of the business sector with a broad focus on environmental scanning behavior and its various aspects as the core of the information needs research. The section mainly looks at strategic perspective of an organization through the information needs study and its utility for the business.

3. Business information needs study of specific business sectors.

This section covers studies published with a focus on business information needs with the context of specific sectors of business like retail, banking, etc.

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

   The published studies covered in this section are mainly focusing on managers in specific functions like marketing, finance, MIS, etc of a business.

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

   The coverage of this section is mainly on studies that focus on information needs of businesses in specific locations like US, Canada, Australia, New Zealand, etc.

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

   This section will covers studies on business information needs that focus on companies owned by special groups like aborigines, expatriates, etc.

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 section covers studies that focus on companies that form a different group like small and medium businesses or large companies that are multinational in nature. The section also covers studies that focus on companies in different stages like startups, firms in financial distress and companies in gestation.

2.1.1 MODELS AND THEORY OF BUSINESS INFORMATION NEEDS

Probably the first published work on information need of an executive was as early as in 1936 when the paper by Walter F. Titus on "The kind of information an executive needs to operate a factory" was published in the Journal of American Statistical Association. The paper is based on a talk by Titus when he was the Vice President, IBM Corporation and was addressing the 97th Annual Meeting of the American Statistical Association in 1935. The article talks about the context in which an executive works and suggests looking at the information need based on this context. In this paper he talks of a works manager and the information he requires. Though not a research based paper, Titus provides a generalist and practical view of information need of an executive working in a factory. Keeping in view the context of that period when manufacturing sector represented the industry, he identifies the types of

information a works manager requires and argues that at that level, where the works manager is heading a manufacturing plant, the need is more for in-house information related to work force, productivity, production and so on. He also mentions the importance and need for budget information and emphasizes on need for looking at the macro picture rather than getting bogged down by details.

Cooper's (1971) work on 'relevance' in the context of information retrieval was one of the early papers on information need representation. The paper looks at relevance from the context of information retrieval and detailed coverage of information need representation. The author talks of 'relevance' as the match between stored information on one hand and representation of the information need on the other. The study has a strong logical basis and the definition of relevance by Cooper is based on finding an adequate linguistic representation of information needs, preoccupation with the indicative mood (implying that the information or data stored in the IR systems can be represented as a set of declarative sentences), and the third feature of this definition is the emphasis on logical consequence or logical implication.

According to him "A stored sentence is logically relevant to (a representation of) information need if and only if it is a member of some minimal premises set of stored sentences for some component statement of that need." In simpler terms or in the context of documents, the author implies that a document is relevant to an information need if and only if the representation of the information need is subset or portion of the document. Reviewing the limitations of the definition and furthering

the attempt by not restricting the definition by information need representation as a set of component statements, the author adopts the component statement tree model. The resulting definition is that "A stored sentence (either in system memory or the user's memory) is logically relevant to the user's information need if and only if: (a) it is in a minimal premiss set for some component statement of the tree representing that need; and (b) there exist stored premiss sets for all component statements in the tree (except the origin) which are ancestors of this component statement."

The paper is of relevance to the present study in understanding the concept of information needs and relevance of the relationship between information source and information need.

Many studies have been conducted on designing and implementing management information systems and this area is of importance to the present research as literature on this area deals with information needs as the basis of designing such systems. In this context, Gorry and Morton (1971) propose a framework for management information systems. The paper draws on the work of Anthony (1965) who classifies managerial activities into operation control, management control and strategic planning activities. Gorry and Morton take this further by looking at what type of information is required for taking managerial decision making. They look at information needs to support decision making in these three types of activities and find out major differences in terms of characteristics of information like source,

scope, level aggregation, time horizon, currency, required accuracy and frequency of use. They presented the table given below that quite self explains their proposition.

Table 2.2 Information Requirements by Decision Category

Characteristics of Information	Operational Control	Management Control	Strategic Planning
Source	Largely internal	→	External
Scope	Well defined, narrow	→	Very wide
Level of aggregation	Detailed	→	Aggregate
Time horizon	Historical		Future
Currency	Highly current	→	Quite old
Required accuracy	High	→	Low
Frequency of use	Very frequent	→	Infrequent

As reflected in the above Table 2.2, the variation from Operation activities to Strategic planning was found to be stark and the overlap point was for management control activities where managers at this level required information of both types, striking a balance.

Gory and Morton also distinguish in their work the type of information each category of managers require and propose the theory that middle management (management control category) require information that lies in the overlap between top management (strategy planning) and lower management (operational control) information requirements as reflected in the table above.

Another major work in determining information requirements for designing information systems was by Munro and Davis (1977), who mainly attempted to compare the decision analysis (top-down) and data analysis (bottom-up) methods in determining management information needs. The broad purpose of the work is towards designing management oriented information system applications. They studied the comparative effects from application of decision analysis and data analysis methods and attempted to evaluate as to which method is more effective in determining the management information requirements. The methods are based on user perceptions of the value of information obtained through both these methods.

The study included a field experiment in four small private colleges and identical set of four different decision situations was analyzed in each of these four colleges, a set consisting of a programmed decision and a non programmed decision from the academic and administrative functional areas. In the academic area, programmed decision was - determining the academic standing of students with low performance and in administrative area - investing short term surplus funds, were studied. Under non-programmed category in the academic area – advising faculty as to the

appropriate action to be taken with regard to a proposed new innovative academic program and in the administrative area – projecting enrollment for the coming year, were studied.

The information requirements obtained by the two methods were rated on basis of value and other attributes. The study indicated the performance of the methods vary as they perform better in some functional areas than the others. The value and attributes of information that has been obtained were affected by the type of decision. For programmed decisions a higher valued set of information requirements were provided by decision analysis approach and in case of relatively non-programmed decisions both methods were equal in providing information requirements. Munro and Davis conclude that organizational contexts are critical in considering the information analysis techniques that have to be applied.

One of the first papers to review the various existing methods to determine information needs was Rockart's (1979) paper in the Harvard Business Review that looked at the information needs of chief executive officers or top executives of companies. The paper examined several methods of providing information to top management and discussed the advantages and disadvantages of each method. Rockart included five illustrative examples from which the author draws generalizations on the method and the information needs of the chief executives. The methods of determining executive information needs included:

1 By-product technique – where information is treated as a by product of a process that actual happens as a day-to-day routine work like processing pay roll, accounts payable, billing, inventory, etc.

2 Null approach method wherein impersonal information, word of mouth and face to face communication is used in collecting information and does not believe in computer based by-product information.

3 The key indicator system that is mainly based on selection of key indicators of health of a business, and information is collected on each of these indicators. This approach is based on exceptional reporting indicators wherein significant performance variation is there.

4 The total study process wherein widespread sample of managers are queried on their information needs and it is compared with existing information systems. The gaps are identified and addressed accordingly.

5 The Critical Success Factor (CSF) method where in all CSFs for the business are identified and based on these CSFs managers' information needs are identified.

The CSF method is illustrated with examples of five companies that included Microwave Associates, a major oil company, a store furnishings manufacturer, government hospital and an electronics company. Based on this the author draws generalization that include that executives require information that is not provided by traditional financial accounting systems, they require information external to the

organization, require information that is widely dispersed within the company, they also require information that was through personal sources and was subjective.

The other major work on CSF was by Munro and Wheeler (1980). They based their paper on a field study wherein the planning processes in a corporation were used as a mechanism for identifying goals, critical success factors and performance measures and standards, in other words, identifying information requirements for managerial control.

The field study looked at the senior and middle level of managers planning activities and attempts to link information requirements of these managers with the decision responsibilities and organizational objectives. The paper describes the way in which business unit objectives are charted out and then CSFs identified for achieving these objectives. This is followed by identifying specific performance measures for each CSF leading to performance standards identification. The follow up to this is identification of data required to evaluate progress in relation to these standards and measures. The last stage, though not included in the field study, was identifying decisions to be taken for implementing the work plan that is generated with a combination of all the earlier stages. The information needed for taking these decisions is taken as consequential to these stages and the paper recommends the CSF method in developing effective information systems for managers.

Wilson and Streatfield (1981) propose structured observation method in the investigation of information needs. The authors critically review the method by assessing its problems and effectiveness. The study mainly reports the project that was undertaken to investigate the information needs of information staff of social service departments, mainly the social workers, middle and senior managers and specialist advisers and also to look at how these needs are met. This three phased study first involved visit to respondents' work place to understand the structures of the workplace and their information services. The second phase involved observational study off 22 respondents and third phase involved interview survey of 151 persons with the required profile to test the prepositions of the observation phase. Though the authors propose this method of research for determining information needs, they also offer caution on the limitations of the method employed and they include difficulty to document information exchanges when quantity is large, observant's ability to understand the information, observant's ability to understand the context, incomplete access to complete information being exchanged, observation may affect the information transfer process and behavior and observant may have been excluded in some events.

Derr (1983) provides a conceptual analysis of information need and attempts to collate different works on the concept of information need. Derr, differentiating the concept of information need from information want, argues that desire for information and possession of information may or may not affect or constitute an information need. It is actually the information purpose and the use of the

information, in question, to achieve that purpose and together they are the necessary conditions for determining that it is in fact an information need. The author also proposes the concept of information need with respect to the judgment that the information in question is helping in achievement of the purpose and that the purpose is a legitimate or genuine need. The important differentiator in the work was defining an information need that is not psychological in orientation. Earlier studies like the one by Cooper (1971) emphasized on looking at information need from behavioral or psychological aspect. But Derr (1983) clearly states that "information need refers to a relationship which obtains between information and the information purposes of individuals" and later on adds "Intensive psychological study of users is not required to identify information needs. The assumption that information need is a psychological condition perhaps has retarded research in this area since the difficulty of verifying psychological states of the individual is well known." The other important point made by Derr (1983) is that "the information purpose should also be taken as expressed by the user though it may be possible that the user may not be able to express his needs clearly..."

Bidgood and Jelley (1991) propose a model to develop a information system that would meets the group's information needs and the work is based on Clerical Medical Investment Group's Strategic Information Systems Planning (SISP) exercise. They propose a system, that the authors believe, that is simpler to construct and understand, flexible and effectively focused on business objectives. The model first develops a concise and properly segmented strategic architecture and then individual

applications (departments) areas are explored. In the earlier architectures the development was business unit or area focused and that lead to duplication and also the CRUD (create, read, update and delete) matrix was smaller and simple.

The model's highlights were:

1. Identify entities and activities that are relevant to all macro or enterprise levels instead of department level.
2. Identify common entities to achieve clarity and compactness of the matrix.
3. Keep the matrix small by having a high level of generalization and allowing split only when clustering is required.
4. Avoid over elaboration
5. Presorting (at a high level) and manipulating the matrix (buy coding the activities and entities)

Bidgood and Jelley (1991) proposed that the information needs of a business have to be met by designing information architectures that are simple, flexible, provide strategy focus and also relevant for operational and functional departments. They concluded that the information need of an organization is the cumulative information needs of all people working in different departments of the organization.

Devadason and Lingam (1996) have proposed a methodology for the identification of information needs of users through their paper presented in the sixty second IFLA

Conference. Their attempt was to basically provide a framework for identification of information needs that is essential to the design of information systems in general and provision of effective information services in particular. The paper reviews major works in this area and proposes a step-by-step method of information needs identification. The steps include study of subject(s) of interest to the organization, study of the organization and its environment, study of the immediate environment of the user(s), study of the user(s), formal interview, identification and recording of information needs, analysis and refinement of the identified information needs.

Cheuk (1998) conducted a qualitative study on the information seeking and use process in the workplace. The study was a doctorate research project and included of eight auditors and eight engineers in (Singapore) their workplace contexts and also studied eight architects, however, the analysis and findings were not completed and hence not reported in the paper. The purpose of the research project was to empirically develop a model, referred to as information seeking and use process model (or ISU process model), that can reflect real-life practice. The proposed model was meant to have implications for information professionals involved in the management of information services, systems design and information literacy education.

The subjects had between one to five years of working experience in their profession. The data collection used was verbal protocol method including in-depth

unstructured individual interviewing (approximately 90 minutes). The questions asked were:

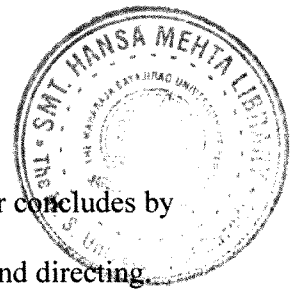
1. What questions flash through your minds in this particular stage of the project?
2. What strategies do you use to get answers to your questions? Why do you choose to use this strategy?
3. What problems do you have in getting answers?
4. How does each answer help (or fail to help) you to carry on with your tasks?
5. What is your feeling at this stage?

The interview dialogues were transcribed and analysed, both manually and with the assistance of qualitative data analysis software titled NUD-IST. The preliminary findings provided seven information seeking and use (ISU) situations that included Task Initiating Situation, Focus Forming Situation, Ideas Assuming Situation, Ideas Confirming Situation, Ideas Rejecting Situation, Ideas Finalizing Situation, Passing on Ideas Situation. The second finding was that these situations impacted the information behavior of the subjects and the third major finding of this study suggested that ISU process in the workplace do not follow any specified sequential order and people move between these seven ISU situations in multi-directional paths.

de Alwis, Majid & Chaudhry (2006) explore research existing on managers' information seeking behavior. They report transformation in managers' information seeking behavior over the decades. Conducting an extensive literature review, they analyse the factors which have influenced managers' choice of source preferences. The findings reveals four key dimensions used to study source preferences, i.e. contextual, situational, personal/ socio-cultural, and informational and identifies common factors under each. The factors that were given importance in the earlier studies were accessibility, quality, and richness of the information, as well as individual and institutional characteristics.

2.1.2 ENVIRONMENT SCANNING AND STRATEGIC BUSINESS INFORMATION NEEDS RESEARCH

Boulton's (1978) paper on the board's changing roles and information needs was probably the first to look at the top management's information needs. Boulton describes role of a board of directors in an organization and talks about the evolving role of the board and its impact on the demand for varied information. The paper talks about the increasing pressure, of litigation and pressure to grow, nurture and develop the company, on the board, making the board go beyond just legitimizing decisions. The need for legal, financial strategic, environment, organizational development information is becoming important for the board. The paper also emphasizes the information need for informative (highlights of problems and



exceptions) purposes rather than on accuracy of information. The author concludes by highlighting the role of a board in taking up the active role of auditing and directing.

Hambrick (1982) explores the relationship between environment scanning activities of upper level executives and organizational strategy across three industries. Private liberal arts colleges, voluntary general hospitals and life insurance firms were selected for the study and these organizations represented low and medium technology sectors, profit and non profit sectors, applicability of Miles and Snow framework and accessibility. All the organizations had employees ranging from 200 to 1500 and none had any financial problems in the last three years and are not known for sophisticated strategic planning. Miles and Snow framework consisted of defenders (stable), prospectors (new products) and analyzers (intermediate) types of strategies. Based on their conceptualization four environmental sectors were assumed and they were:

1. Entrepreneurial sector: product /market trends or events (example: demographic shifts affecting demand for the organization's products);
2. Engineering sector: events or trends bearing on rationalizing the manufacture or delivery of products/services (example: new developments in process technology)
3. Administrative sector: events or trends bearing on determination of roles and relationships in the organization (example: new approaches to developing managers)

1 Regulatory sector: government regulations, taxes, sanctions, accreditations, litigations, etc. (example: court cases involving the industry).

The study identified three relatively 'pure' Defender colleges and three Prospector colleges; two Prospector and three Defender hospitals; three Prospector and three Defender insurance firms. Three organizations were judged to be Analysers and were not considered in this research. Among this sample the subjects were selected based on suggestions from chief executives (up to a maximum of 12 per organization). 170 questionnaires were sent, 165 responded and subsequently interviews were conducted.

The environment scanning was measured using:

1. Frequency method involved asking respondents how frequently they learned of events or trends in twenty subsectors of the environment --five subsectors for each of the four broad environmental sectors (entrepreneurial, etc.).
2. The interest method - asking the subjects to rate the extent to which they put efforts to keep themselves updated of various sub sectors of the same twenty sub sectors.
3. The hours method looked at what percent of their scanning time was spent on each of the sectors and, in turn, how many total hours they spent scanning, in an average week

The results of the Hambrick study indicated:

1. There were no differences in the total amount of scanning conducted in Prospectors and Defenders.
2. Scanning entrepreneurial sector varied by industry and did not support the proposition that prospectors would scan more of this sector.
3. The proposition that defenders scan more engineering sector was also not supported by the findings.
4. There were no differences in regulatory scanning between Prospectors and Defenders.
5. The executives did not indicate a consistent tendency to scan according to their organization's strategy.

Daft, Sormunen and Parks (1988) conducted a empirical study on chief executive scanning environmental characteristics and related this to the company performance. The environment sectors identified were customer, competition, technological, regulatory, economic and socio-cultural and then their perceived complexity, rate of change and importance of each sector was documented by personal interviews. The sample consisted of 41 CEOs, 2 manufacturing vice-presidents, 3 executive vice-presidents and 4 senior vice-presidents from companies that were small to medium sized manufacturing firms with annual sales ranging from $ 2m to $ 500m and the employee strength ranging from 100 to 6000. The data concerning scanning sources

were collected in four modes – written external sources, written internal sources, personal external contacts and personal internal contacts.

The findings of the study were that in context of scanning modes, personal external, personal internal and written internal were used most frequently for customer sector. The socio-cultural sector was lowest in rating. The other findings were:

1. Each sector presented different uncertainty to CEOs starting with, from decreasing level of uncertainty, customer, economic, competitor, technological, regulatory and socio-cultural.
2. The perceived strategic uncertainty had a positive correlation with frequency of scanning.
3. The increase in strategic uncertainty increased reliability on personal sources.
4. The correlation of strategic uncertainty with use of internal and external sources was the same.
5. The high performing firms did more frequent scanning and also relied more on personal sources.

Ramaswami, Nilakanta and Flynn (1992) studied the influence of organizational factors on strategic information needs. An empirical assessment of the influence of organizational context factors – strategy and environment on the strategic information needs of firms was carried out. The sample taken for the study consisted of 167 commercial banking institutions (out of a total population of 450) in USA. The main

contact person in these firms were identified to be Marketing Director / Manager / V.P. as the study focused on strategic information on product / service market.

The instrument used was a questionnaire that was finalized after a pilot study among senior marketing managers in 25 banking institutions. The findings of the study were:

1. The strategy factors of marketing and service differential showed positive relationship to SIS whereas product differentiation and cost focus did not reflect any relationship.
2. Market diversity has a positive relationship with SIS. This implied that customer diversity and competitive intensity force emphasis on SIS.
3. The increase in complexity of banking consumer and competition from non-banking financial institutions implied an increase on emphasis on strategic information in future.
4. The environment in which a firm functions is a major deciding factor on the choice of a strategy and this relationship of strategy and environment has an effect on the emphasis on strategic information.

Auster and Choo (1994) researched on how senior managers acquire and use information in environmental scanning. They address three main research questions and they included:

1. What environmental sectors are scanned by CEOs?

2. What information sources are used for this purpose?
3. How they utilize this information in decision making.

The study focuses only on information about events and trends in the organizations external environment. The study sample consists of 13 chief executives in the Canadian publishing and telecommunications industries scanning and each of them was asked to relate two critical incidents of information use. These reported incidents were analyzed according to environmental sectors, information sources, and application or use in decision making. The sample selection was made from available population of 207 firms that were having annual sales equal to or more than C$ 5 million in the sectors and about 22 in the city of Ontario agreed to be interviewed and finally 13 responded for the study. The Ontario city was selected due to geographical proximity to the researcher and also a large number for firms in the selected sectors were located here.

The findings revealed that the chief executives concentrated on the competition, customer, regulatory, and technological sectors of the environment. The respondents used environmental information in the entrepreneurial decisional roles, launching new products, projects, or policies. Among many sources personal sources were important for information on customers and competitors; while printed or formal sources were also important for information on technological and regulatory matters.

Choo (1994) studied the use of information sources for the purpose of environmental scanning by chief executives of Canadian telecommunications industry. The main focus of the study was identifying information sources used by them, their perception of quality information sources, relationship between perceived source quality and source use, and also perceptions and use of the company library and electronic information sources.

The information sources that Choo looked at were categorized as follows:

1. External:
    a. Personal – Customers, Competitors, Business/professional associates, Government officials
    b. Impersonal - Newspapers, Periodicals, Government publications, Broadcast media industry, Trade associations, Conferences, trips
2. Internal:
    a. Personal: Superiors, Board members, Subordinate managers, Subordinate staff
    b. Impersonal - Internal memo, Circulars, Internal reports, Studies, Company library, Electronic information services

The indicators of relevance and reliability were used to measure the quality. For each source (16), responses to relevance and reliability were summed up to give an index of Perceived Source Quality.

The sample consisted of 67 out of 113 CEOs identified from the telecom industry of Canada. Questionnaires were mailed and supplemented by personal interviews. The sample consisted of CEOs of firms with annual sales between $10 m and $ 50 m (1/3 firms); between $ 50 m and $ 500m (32%). All respondents were male, with a minimum of bachelor's degree with 2-5 years experience as CEO.

The findings of the paper included:

1. Newspapers, periodicals; subordinate managers and staff are most frequently used sources
2. Broadcast media, customers and internal memoranda were next best used sources
3. Government officials, conferences, trips, company library and electronic information services were the least used
4. Mean usage frequencies of all external and internal source categories were same
5. Within internal personal sources were more used than impersonal sources whereas there was no significant difference in external category.
6. The highest quality of information was associated with subordinate managers; customers; subordinate staff; internal reports and studies; and superiors and board members and on the other end of the spectrum was company library; electronic information services; and broadcast media.
7. There was a positive correlation between use and quality parameters.

2.1.3 BUSINESS INFORMATION NEEDS OF SPECIFIC BUSINESS SECTORS

Keegan's (1974) was an early study on multinational scanning that investigated the information sources utilized by headquarters executives in multinational companies. The study was undertaken to explore use of information sources by executives responsible for international operations of multinationals corporations headquartered in US and in that sense the sector they were in can be considered to be international business.

The sample included 50 executives located at the headquarters of 13 United States international corporations; 35 of the executives had full-time responsibility for some aspect of the organizations' international operations, and 15 (14 were corporate executives and one product division executive) were responsible for both domestic and foreign areas. The nine companies represented by 44 of the respondents were in the food sector and the remaining 4 were in manufacturing sector. Data was collected through personal interviews and each executive was asked whether in the last six months they had personally obtained or received external information that was important for their jobs; whether they got the information - marketing, economics, the competition, government regulations, technical developments and financial matters and so on. They were asked the information source, why they received the information, how they received (medium) and to whom they passed the information. In the data, the instance where external information was involved and related to

international operation was only included and totally about 139 such instances existed.

The respondent profile revealed that 92 percent of them traveled outside US in preceding year, 86% had completed college and 34% had Masters or LLB and more than 10 years experience were about 46%.

The findings of the study were that human sources were clearly more important with 67% followed by documentary – 27% and physical – 6% and the information sources were 66% outside the organization.

In the analysis part of the study three categories of information were developed – human, documentary and physical and sources of external information and grouped under these three heads. The human sources inside the organization were international division executives based abroad (15% information is sourced from them), headquartered international executives, corporate executives and staff and product division executives. Human sources outside the organization were service organizations staff, competitors, distributors, consumers, suppliers, government officials and staff and others. Documentary sources inside the organization were information storage, reports and letters. Physical phenomenon (outside) included objectives, events and circumstances.

Human sources, especially own staff working abroad were considered very important information sources. The relative importance of human sources is indicated by the fact that they are 24% of all sources within an organization and 43% of all sources outside the organization. Service organizations were looked up for foreign (relevant) regulatory environment, investment climate in the country (of interest) and competitive intelligence.

In the section on documentary sources the preferences included 10% for publications outside the organization (percent of all sources), and 37% of documentary sources; information services was 5% of all sources and 19% of documentary sources, letters (inside) was 6% of all sources and 22% of all documentary sources. Physical phenomena were source of 6% of information acquired by respondents and 8 of the 9 were instances when they were traveling abroad.

Outside sources reflected high relative utilization (88 percent) by financial executives. The documentary sources were used frequently by financial executives and human sources by general managers.

Stevens (1975) conducted one of the early studies on information availability and usage in the retail sector in general and specifically by retail managers. The study had focused research objectives of determining whether or not most retailers have income statements and balance sheets prepared for them, the extent to which this information is used in calculating ratios for use in managing and planning their business, extent of

use of information provided through sales and cost analysis and also to develop a profile of personal and business characteristics of users and non-users of the types of information investigated.

An initial interviewing of 10 retailers was extended to the main survey of 100 retailers from a population of 3776 retail establishments in four selected cities. Each retailer was interviewed for data collection for this study. The findings of the study included that 58% did prepare income statements and balance sheets' 62% reported some type of calculations based on values through these statements but only 36% did ratio analysis. 45% reported having their sales broken down and 36% used functional and or segment cost analysis.

The profile of retailer who used ratio analysis (36%) was that they tend to be part of a multi-unit operation, incorporated, with large number of employees and larger sales volumes. The managers of these firms tend to be less experienced in retailing and younger than managers of nonusers. Even on the sales analysis and cost analysis parameters the characteristics were similar.

O'Reilly (1982) looked at the variations in decision makers' use of information sources and the impact of quality and accessibility of information. The study was conducted among the sample of 163 subjects employed in 4 branch locations of a county welfare agency. The sample included 39 units with subjects having work experience ranging from 1 to 10 years with 35% having college degree.

Each branch was visited, meetings held and questionnaire administered. The two questions asked were: (a) How frequently, on the average, do you obtain information for decision making from the following sources and (b) Personally speaking, how valuable or important do you usually find these information sources to be providing you with information with which to make decisions?

The four information sources identified were: (1) files (handbooks and procedures), (2) updates (memos and newsletters), (3) internal work group (peers and supervisor), and (4) external information sources (others outside the unit and in other organizations).

Task uncertainty and complexity were reviewed through the questionnaire with questions like - How routine or standardized are the decisions you are required to make in your job? When you must obtain information to make decisions? How many sources do you ordinarily have to use before you can make a decision? The other aspects covered in the study were motivation, quality and accessibility of information. The questions were aimed at collection data on accessibility, accuracy, specificity, timeliness, relevance, and amount of information obtained from information sources.

The results clearly showed that both files and internal group communication are used more often than either updates or external sources. The findings of this study reflect the importance of the accessibility of information, as well as perceived quality, as determinants of information use. The potential importance of communication among

group members as a source of information for decision making is also reported in the study.

White (1986) investigated the information use and needs in manufacturing organizations and mainly focused on organizational factors in information behavior. The study attempted to test the assumptions of Anthony (1965) and later developed upon by Keen and Morton (1978), wherein the information is related to level of managerial responsibility and problem solving. The assumption was that managers at different levels require different problem solving or decision making information that is identifiable. The summary of the model is that the information use or need is based on functional structure and applied to work organizations. The model is:

Characteristics of Information	Operational Control	Management Control	Strategic Planning
Source	Largely internal	→	External
Scope	Well defined, narrow	→	Very wide
Level of aggregation	Detailed	→	Aggregate
Time horizon	Historical	→	Future
Currency	Highly current	→	Quite old
Required accuracy	High	→	Low
Frequency of use	Very frequent	→	Infrequent

The research investigated the information needs of manufacturing companies through a compilation of a series of detailed case studies, personal interviews with the individual managers using semi-structured questionnaires. Organizational structure, culture and patterns of communication were explored. The geography of the sample was South Yorkshire/Derbyshire region of Britain and the companies ranged from medium to large firms dealing with different products and markets. The ownership structures varied from being part of large UK or MNC groups to being run as family concerns. The functional areas identified for the study were production, sales, marketing, finance and personnel. The study was to investigate whether there was significant difference in the information requirements among these divisions.

The study found that direct correlation between functional role and particular information needs could not be established. The information needed by the respondents (n=79) were varied and had a mix of attributes and ranged from operational to strategic, irrespective of functional area. The information behavior of different functional managers did not support any stratified or hierarchical model.

The study concludes that general models of organization will not benefit information system design and it is the culture of an organization and nature of authority exerted by top management that is crucial in determining information needs.

Scrivens (1987) studied the information needs of district general managers in English National Health Service and the problems of information use in this information

intensive organization. Though a huge organization with tons of information, the study indicates that the non use of information or the question of how to use the information for effective decision making was the major issue for top managers in the NHS. The paper also reports a survey of 135 districts' in an attempt to find out the type of information they feel are important or useful. The survey findings indicate that some districts focused on routine data and other were also looking for information outside the district also. The paper is a good start for researchers looking for the various types of information that health management professionals look for, in the larger pursuit of studying the information needs and information behavior of health managers, especially in the public health sector.

Bruns & McKinnon (1993) investigated through a field study the manufacturing sector in the context of information and its use by managers. The study aimed to look at how managers use accounting information and addressed the following research questions: (1) What information do managers say they need and use? (2) Where do managers get the information that they use? (3) Are some managers better prepared to use information than others? (4) Has the development of technology changed the way managers receive and process information?

The authors used structured interviews on field visits with 73 managers in 12 manufacturing companies (6 in US and 6 in Canada). The sample was selected on basis of location, accessibility, personal contacts and expected willingness to participate in the study.

The findings of the study included:

1. Informal sources of information – face-to-face meetings, observation, telephone calls and informal reports found preference with the managers, both for routine and long term needs.
2. Financial information increases in importance as the management horizon lengthens.
3. Interpersonal communications and distributed reports were major sources of information for the managers. They also used computers, e-mail and fax facilities.
4. The senior managers used managers at lower levels as important sources of information.
5. Managers preferred timely and accurate information and they develop their own style of getting information that they feel is needed.
6. The most effective management accounting reports described were not providing information for routine (day-to-day) decisions.

Chalmers (1995) studied the use of business information by managers in the export and tourism sector in New Zealand. This qualitative research study focused on managers' need for published information and uses of the information and information from personal contacts. The sample consisted of 27 people in eight companies in New Zealand mainly into exporting or tourism within the scope of food industry and industrial and electronic manufacturing companies. The subjects had

designations like projects manager, group manager, general manager and research and development manager. The sampling was purposeful and included companies that were identified as innovative, successful and dealing in overseas market through exporting or tourism. Newspaper and journal articles on these companies were studied and a small number of them was selected and approached for the study. The final sample consisted of these eight companies. After discussion with senior management of each company subjects were selected for the study.

A structured interview schedule was prepared and pre-tested in one company with two people and then conducted among seven companies with 25 people as the sample. Since only minor changes were incorporated in the schedule the pilot data was also analyzed in the final study.

The findings included:

1. The most common information need was for market information and technical information while the interests spanned a wide spectrum of business areas.
2. The mix of published and unpublished information was reported to be of value and among the published sources, trade, industry and professional journals were mentioned and in the unpublished segment, information from personal contacts was found useful.
3. Most of the respondents reported some use of published information and opined on its value for their decision making.

4. Information from personal contacts was found to be of greater value and included agents, company staff, competitors, customers, diplomatic and trade sources, distributors, suppliers and vendors.
5. For people involved in R&D work, specific published information was of equal importance to personal contacts information.
6. An ad hoc approach to the accessing and management of information was used by most of them within their organisations. Many perceived difficulties were found mainly with respect to the range and volume of published information available and also limited time available.
7. Lack of infrastructure for information management was reported.
8. One company reported positively on the in-company library as a source of information. Some used libraries outside their company and or broking services and all in this group used external libraries as they had personal connections.

Bouchet, Hopkins, Kinnell and McKnight (1998) studied the impact of information use on decision making in the UK pharmaceutical industry. The study was conducted by firstly identifying (24) pharma company library and information services persons, who in turn helped in identifying and getting responses from subjects. Mailing of questionnaire followed by personal and telephone communication facilitated good response for the study. The sample had 13 companies and final number of usable responses was 100 out of 197 identified. The 13 companies included three listed and remaining were private companies. All companies had over UKP 1 m annual

turnover, more than UKP 50,000 pre tax profit or more than UKP 1m in shareholder funds. All except two were MNCs. The 60% of the subjects had worked in the same company for more than ten years and about 68% had worked in pharma sector for more than ten years. 21 % delegated information search to others, 41% used information services once a week or more and 41% used it once a month. Nearly all managers would consult in-house sources (internal memos, colleagues, etc) though nearly 50% used external business contacts. Information on other research or information on specific product (drug) were the most commonly searched for information. Most of the respondents reflected that the information they retrieved has high impact on the decision making. All respondents felt that the information was timely, provided new knowledge – 98%, and accurate and current – 97%. About 18% felt that information secured was not relevant, 67% felt that it refreshed memory of details or facts and 61% felt prior knowledge was substantiated and only a third of them felt that it provided new dimension in their decision making. In conclusion the majority of the respondents felt that the information secured through information services was timely, relevant, accurate and significant to the decision making and course of action in their work.

Broady-Preston and Hayward (1999) looked at the strategic information management in the UK retail banking sector. The study is based on a funded project that investigates the role of information and its relationship with formulating strategy in the banking sector in UK. The sample included 15 retail banks and 5 large retailing organizations with financial services arms.

The questionnaire and interview approach was adopted in the data collection and the paper reports a response rate of 70% for questionnaires and 50% of them agreed to an in-depth interview. The second stage involved an investigation of strategic information from the viewpoint of information managers and here the questionnaire achieved 85% response rate with 76% of them agreeing to participate in an interview.

The findings that may be of interest to the present study are that:

1. Market and competitor information (more than 90%) were used the most followed by customer (80%) and the lowest was information Technological (about 30%).
2. Online sources and reports were about 80% used as sources of information followed by journals, CD ROMs, newspapers and internet.
3. Among the departmental services CAS was more popular than SDI.
4. Accurate, current and quality information was found to be critical for strategy formulation
5. Information gathering and analysis activities were viewed as a part of all managers' work.

Widén-wulff (2003) conducted a study of information cultures in Finnish insurance companies. The sample of 40 in-depth interviews in 15 Finnish insurance companies, representing almost all of the existing insurance companies and company groups on the Finnish insurance market was selected for the study. People from different

processes in the companies from the top level, marketing and production were interviewed.

The interview questions covered aspects of internal information use and behavior: individuality, company aims, motivation, communication, information technology, knowledge creation, innovation and information management. The interview material was complemented with annual reports, internal papers and surveys, etc. This was a qualitative study where the case study method was used as the technique for the analysis of the material. The companies were studied as different cases, and from these cases a broader view and understanding of the information behavior was created. Four main aspects of the material were analyzed: the internal environment, the human capital, the intellectual capital and the information in the work processes. The focus was on the information behavior in different work processes in the organization.

Three categories of internal environments were shown to exist:

1. closed business environments, where tradition and safety are underlined, which emphasize knowledge in different parts of the infrastructure, but not interactively;
2. open companies, with an innovative culture, which emphasize social capital and the integration of the individual level in planning processes;

3. companies in the middle, developing from closed to open environments, which underline the knowledge of the units and point out the core competencies and their systematic development.

The study summarizes that business world today needs an information culture in which it is possible to keep together the knowledge base and the social capital, and that the internal structures are important for information behavior of a company.

Vojak, Suarez, Peters, & Sundararajan (2005) surveyed the most commonly employed practices in the sources of information used in new product and process technology planning by participants in the nanotechnology industry. The frequency of use of each source of information is measured for both short-term and long-term time frames to commercialization. The results of this survey are compared with those from an earlier survey of the upstream environment of the electronics industry, with similarities and differences analyzed and discussed.

The study employed a survey instrument that was developed for an earlier study of the electronics industry with help of interviews conducted with industry participants, six in number, in the electronics industry.

The information sources identified and included in the survey were:

1. Specific orders placed by customers

2. Order trends for current products
3. Customer roadmaps and technology plans
4. Customer information obtained by company's design and R&D engineers
5. Customer information obtained by company's applications engineers
6. Customer information obtained by company's sales and marketing force
7. Press releases issued by customers
8. Information from customer's customer or from the end user about how much they value the characteristics of product
9. Information from customer's customer or from the end user about what features they would prefer in product
10. Competitor product benchmarking
11. Multi-source agreements (agreements with a small number of competitors to offer products with interoperability and interchangeability)
12. Industry standards and standards organizations
13. Industry market reports
14. Senior technical visionaries within your organization (senior engineers and scientists)
15. Senior non-technical visionaries within your organization (senior marketing and sales)
16. Technical conference presentations and technical journal publications

The findings of the study include:

1. The sources of information used in technology planning in both the short-term and long-term time frames to commercialization appear to be relatively independent of industry for nanotechnology and electronics industries, though they are quite different.
2. These similarities exist in spite of the fact that the sampling frames used in the two surveys represent somewhat different profiles, with the nanotechnology industry sampling frame dominated by executives with general management responsibility while our electronics industry survey sampling frame is more broadly represented by all levels of management and is populated primarily by those involved in new product and process development.
3. Some differences found were that the more nascent industry (nanotechnology) relies more on internal technical and non-technical visionaries, and the more mature industry (electronics) relies more on industry standards and market reports in the short-term time frame to commercialization.

Anwar (2006) studied the information needs and use in the private construction materials sector in Kuwait. The method of data collection was through a structured instrument, expert-reviewed and pilot-tested. The sample consisted of 20 companies and the subjects were surveyed by interviewing a senior official identified by each firm. The companies were selected that mainly traded in construction materials and were listed in the local chamber of commerce website. The sample was opportunistic.

Each company was contacted and a senior person identified to represent the company in this study. A structured 5 page detailed interview schedule was administered and each interview lasted for about 30-70 minutes. The size of the companies varied between nine to 600 employees, small to large and from quite new to mature companies.

The study specifically looked at types of information used by the construction materials companies, formal and external sources of information used, types of documents used to obtain information, informal sources of competitive business information were used by these companies. The importance of each of these was also asked for in the questionnaire in addition to the satisfaction with the information received and problems faced in obtaining this information.

The findings of the study were that financial, marketing, legal, forecasting and managerial information were the most used type of information in order of importance. Directory, personnel and statistical information were the least used. The most important of information sources included government agencies, the Internet, the Kuwait Chamber of Commerce and Industry (KCCI), and financial service agencies in addition to several informal sources. Government publications and statutes were considered most important information source followed by local newspapers and trade journals and product literature. Information use activity was found to be at a low level in Kuwait. Competitive business information was considered very important. Among the informal sources, generally highly used,

relevant individuals and groups and employees of rival companies were ranked high. 50% of the respondents felt that they received "too little information" and only 5% felt that they received "too much information."

Among the problems to access business information accuracy and credibility was seen as the most disturbing of problems followed by 'competing companies hide their information' and about 60% did not identify any problem. About 90% of businesses surveyed used the Internet as an important source of business information.

Serola (2006) studied the city planners' information seeking behavior and the information channels used and information types needed in varying types of perceived work tasks by the planners. The issues addressed were focused on a group of city planners, what their daily tasks (as perceived by them) were, what information is needed for these tasks, channels they use and how the types of tasks are connected with the types of information they need, seek and use.

The sample included 17 people from Department of City Planning, Department of Municipal Technology and Traffic planning. The designations of these people included architects, engineers, technicians and planners. Each was interviewed in two stages, the first (1.5 hours) identified the work tasks and information required. The log of internet browsing was documented and collected before the second interview (after a month for 1 hour). The second interview included data collection on other sources of information used.

In the tasks, the core tasks (CT) were planning and survey and the supporting tasks identified were management, support, counseling, training and environmental scanning. The perceived information needs could be easily classified as problem information, problem solving information and domain information. The internet search logs (261 unique information needs required directly for a task) showed that problem information was required the most (76.6%), problem solving information was required now and then (18.4%) and domain information was needed in only 13 cases (5%).

The channels of information identified in this study included internet, limited net (extranet, intranet), printed documents, persons and direct observation. For problem information, Internet and limited net were preferred. Persons were also used as source in planning. Survey was a task that was less frequently done and problem information for survey was through Internet and print media. In management, problem information was almost the only needed information and that was through internet and limited net. In environmental scanning it was mostly the internet, limited net and also meetings. Problem solving information was mostly through the internet. In training, only domain information was sought for. The findings indicate that Internet and limited net was the most used channel when problem information was needed and in problem solving information Internet and limited net was used for planning or survey. Persons were important when seeking feedback or opinion in problem information category. The paper also concludes that it is difficult to measure the perceived utility of the search results in supportive tasks.

2.1.4 BUSINESS INFORMATION NEEDS OF MANAGERS WORKING IN SPECIFIC FUNCTIONS, ROLES AND LEVELS

One of the first researches conducted on information needs of a specific type of respondents was by Martin (1983) where in he explores the personal information needs of top MIS managers. The paper attempts to look at whether the top MIS managers are using computers effectively to satisfy their own information needs and also determine effectiveness of formal systems they use and compare them to the information needs. The work is different in the sense that Martin reports two studies in this paper, the first uses the Critical Success Factors (CSF) approach to explore the information needs of a group of chief MIS executives. The second study surveyed another group of chief MIS executives for determining the formal systems that were used personally by them. The target group in the study (both studies) came from varied organizations like computer manufacturer, consumer products, financial, government, heavy manufacturing, pharmaceuticals, oil refining, public utility and retailing. The size of the organizations varied in size from 50 to 800 and respondents were 15 in number in the first study and 17 in number in the second study.

In the CSF study Martin identified 7 generic CSFs with the help of the respondents (chief MIS executives) and information measures for each of these were identified. The information needs identified and produced by this study revealed that considerable amount of information that was required by the group was subjective and qualitative in nature and only a portion of which was amenable to formal

systems. The second study revealed that there were areas other than identified by CSF approach where formal systems were used by the target group. The studies indicate that the MIS managers are reasonably well served by their formal systems and there was no indication that they neglected their own information needs. The study also cleared the myth that the MIS managers were lax when it came to using technology for meeting their own information needs. As indicated by the author himself the limitations of the study were in the size and composition of the sample.

A comparative analysis of information search and evaluation behavior of professional and non-professional financial analysts was undertaken by Anderson (1988). This study proposed several hypothesis that included:

1. Professionals will use more directed search strategies than non-professional subjects.
2. Professionals will search for and evaluate smaller amounts and fewer types of information than non-professionals.
3. Professionals will use less time in search and evaluation than non-professionals.
4. Professionals will manipulate and subjectively weigh information in different ways during evaluation than non-professionals.

The method adopted was the process tracing technique that mainly involved detailed analysis of a task, in this study, analysis of an initial public offering of an equity

security. 7 subjects participated in the experiment, 4 were professionals and remaining 3 were non-professionals. All the subjects were required to be equally involved in the task. The selection of the subjects was based on mailing to professional analysts, organizations, newspaper advertisement insert and also based on earlier works. They were also paid for participating in the study. The study was spread over one month. The subjects were placed in a room, alone, with a intercom and observation system. They were given the prospectus and asked to decide whether they will invest at the indicated price. They were asked to talk loudly during their solution process and that was recorded, transcribed and later analyzed.

The results of the study suggest that professionals treated data in different ways as compared to non-professionals. The main differences included strategy selection, weights attached to data and final conclusions.

Morrison (1993) studied a very different group of business executives in his research on newcomer information seeking. This study deals with the information seeking process of 240 newcomers, i.e., recent college graduates recruited as staff accountants (permanent jobs) in five large firms having employee strength ranging from 1,000 to 5,000 in numbers. The data collection was through questionnaire method that was mailed three times – 2 weeks after orientation (respondents - 205), 3 months (respondents – 172) and six months after joining (respondents – 149).

The questionnaire sought to know the types of information seeking – ask supervisors, ask co-workers, ask new comers, observe, monitor supervisors, monitor co-workers and consult written sources and the type of information included technical information, referent information, performance feedback, normative information and social feedback.

The findings of the study indicated that newcomers take an active part in socialization process and also provide insight into specific tactics of information seeking. The newcomers engage more on monitoring than in inquiry for most types of information, however for technical information they rely more on inquiry. As information sources they preferred peers for certain information and supervisors for other type of information. Only in case of technical information they preferred supervisors over peers. The other interesting finding was that self confidence had little effect on information seeking. The newcomers also asked more frequently for technical information and when it came to monitoring different types of information, performance feedback was high on priority in the second and third rounds. The limitation of the study, indicated by the author, is the homogeneity of the sample in terms of industry and personal work profiles.

Vogt, Roehl & Fesenmaier (1994) look at the group of meeting planners' to understand their use of meeting facility information. The study is a survey research to investigate use of internal and external information sources by meeting planners' and their preferences of information seeking. The data collection was undertaken from a

sample of Indian associations and businesses that hold off-site meetings. Based on the listing of an independent market research company and telephonically identifying people responsible for organizing meetings, a sample population of 236 individuals was identified from 832 telephone interviews from 1203 businesses / associations. Firstly the people were mailed questionnaires and followed by reminder mailing and this lead to 110 responses being returned and finally 75 surveys were usable.

The results of the survey indicated that 44% of the meeting planners' always consider alternative locations for events, 53% sometimes consider alternate locations. In 31.3% cases, presidents of organizations were final decision makers, 30% cases meeting planners decided and 30% committees decided on the same. About 73.1% of the subjects cited prior experience as the top choice followed by talking to other meeting planners' (39.7%), own file cabinet (37.2%). In the section of most useful sources for receiving information about facilities the top rating was for personal letter and meeting planner guide with 52% followed by personal invitation to visit the facility with 42.7%, direct mail was 38.7% and the least popular was visit by sales person – 8.0%.

The most likely combinations of information retrieved during active search included prior experience and talking to other meeting planners (30.7% probability) followed by prior experience and contacting a facility sales representative (17.3% probability), talking to other meeting planners and using information in file cabinets (17.3%

probability). The least likely was retrieving information contained in trade publications and talking to other meeting planners (1.3% probability).

In the passive information receipt meeting planner guides accompanied with personal letter was the most popular (24% probability) followed by meeting planner guide with a personal letter and a direct mail piece. In the last analysis, combination of active and passive search activities working in tandem, prior experience and meeting planner guides were linked strongly (37.3% probability), prior experience and personal invitations to visit a facility and mail pieces (36% and 30.7% probability respectively).

A study on the middle management group of executives was carried out by Mangaliso (1995). The study investigates the impact of contextual variables of decentralization and environmental uncertainty on the perceived strategic usefulness of information by middle managers. The study tests the three hypothesis, generated based on earlier studies (1) there will be a positive relationship between scope of information and both environmental uncertainty and decentralization; (2) there is a positive relationship between timeliness of information and environmental uncertainty and a negative relationship between timeliness of information and decentralization; (3) there is a positive relationship between aggregation of information and environmental uncertainty and a negative relationship between aggregation of information and decentralization.

The research method employed was questionnaire and the sample identified consisted of 90 managers from the overseas subsidiary of a large, diversified multinational corporation. The subsidiary consisted of several companies (maximum employees were 200), mostly in manufacturing in the areas of personal care products, edible fats and oils, detergents, industrial chemicals, warehousing and flooring. The subjects were mostly middle managers (who had other managers (2-10) reporting to him or was responsible for a unit) in areas of marketing, production, accounting, engineering, human resources and corporate services. After expert review and pilot testing, 90 questionnaires were mailed and 65 were returned and usable. The subject profile included 63 males, 2 female, 52 had post high school education, 37 – university degree, 29 were between 35 and 45 years and rest between 25 and 35.

Decentralization variable was measured using a 14 item instrument and environment uncertainty was measured using Duncan instrument that measured the frequency with which 14 factors were considered important in the job. Perceived degree of usefulness of information was measured by respondents by indicating the extent to which a series of information characteristics were important to them in making decisions on a 5 point scale.

The findings included that middle managers regard information as useful if presented to them in reasonable aggregated format, in a timely manner and covers sufficient scope in terms of future time scale. The study also reports that when there is environmental uncertainty (deficiency of information) then timeliness, scope and

aggregation of information is very important for managers. When environmental uncertainty is more then information, though incomplete, was gathered quickly before taking action. Managers also perceived that aggregated information was strategically important in higher levels of uncertainty. The other interesting finding was that there was a relationship between decentralization and uncertainty in the sense that it differed in different levels of decentralization. In addition to this the finding indicated that uncertainty leads to decentralization was not a straightforward relationship.

Ellis and Haugan (1997) explored the information seeking patterns of engineers and research scientists in an industrial environment, more specifically in the R & D department of Statoil, a international oil and gas company in Norway. The Ellis (1989) model of information seeking patterns of academic researchers was adopted for this study. The study was focused on information seeking behavior in relation to general work situation and project specific requirements for information. 23 respondents were interviewed (45 minutes to one hour) and the sample represented different research areas, different phases of projects - evaluation of alternative solutions, development and testing and summary of experiences, different project types - incremental, radical and fundamental, different project roles and a mix of engineers and scientists.

The information seeking patterns were described through eight categories to form the model. The categories were surveying, chaining, monitoring, browsing, distinguishing, filtering, extracting and ending. The study indicated that the

information seeking process was extensive at the initial phase of a project and both formal and informal channels were exploited. As the project progresses the respondents indicated their selectiveness increasingly and the use of formal channels reduced. However in the final phase, again, formal and informal channels were utilized but on a smaller scale. Though there were some differences in engineers and scientists in their choice of information sources, the behavioral characteristics were similar to the models reported by earlier studies on physicists, chemist and social scientists.

Mackenzie (2003) investigated the information gathering behavior of line managers of a for-profit business unit in a US based corporation. The top management consisted of department heads, senior sales managers and the vice president. The middle management consisted of divisional managers and front line sales managers and they form a link between top management and the front-line employee group.

The study compares the information behavior of line managers (50 in number) to non managers (50 in number), randomly drawn from the business unit. The independent variable was role of the employee (manager and non-manager) and information behavior of the employee was dependent variable. The hypothesis tested were:

1. Information accumulation without explicit business related need will emerge more with line managers

2. Such information accumulated prior to the need is used more often by line managers to make decision after the need arises.
3. Line managers have greater tendency to cooperate with other employees

The data collection method was questionnaire consisting of 25 items and subjects were randomly selected. The variables used for information accumulation were: (a) the importance of staying close to information in the organization regardless of its direct relevance to job and (b) the requirement that a need for information precedes the behavior to engage new information. The findings on these parameters were that managers tend to stay much closer to information though not related to their job when compared to non-managers. Managers tend to accumulate information even when it may not be required for immediate decision making.

For the second hypothesis, the variables used to indicate use of accumulated information were: (a) searching for new information when a need exists and (b) using previously accumulated information. The findings indicated that managers tend to use the accumulated information more than the non-managers.

The third hypothesis was tested by the variable – the importance of associating or interacting with other actors in the organization. It was found that managers had a tendency to cooperate with other employees in comparison to non-managers.

Independent of these hypotheses the authors investigated whether managers desire being "in the know" in comparison to non-managers and results did indicate that the aggregate mean score of managers was significantly greater than non-managers. The author suggests that the information gathering behavior of line managers is not limited by formal structure of organizations.

Thivant (2003) attempts to study the information seeking and use behaviour of finance professionals in a professional context, specifically in design of financial product like mutual fund. The study included interviews of financial professionals who had direct involvement in designing and developing the financial product. Developing a specific and new approach called –APISU - Activity, Product, ISU (Information Seeking and Use) as it was difficult to really distinguish between information seeking and use behavior from the activity itself and from the result of the activity, the study was conducted.

The data collection was undertaken by a questionnaire that aimed to collect information on practices and habits of 4 custodians, 2 managers and 3 promoters or distributors. To enhance the understanding of the information seeking process, an analytical approach was adopted by analyzing all financial product variables by describing the product design. The questionnaire consisted of activity analysis in the first part, information seeking problem in the second and representation of the new financial design services in the third. Then practicing expert interview was taken on the product design description and then information was sought on product design.

This analysis was used to develop FPDL – Financial Product Definition Language that would help in product design framework in case of mutual funds. With this tool the paper attempts to understand the concerns of respondents in the information seeking and use activity.

The study then looks at information seeking and use process across different stages of product design and reports increase information search or need at the start and information use towards the end when decision making is of prime importance.

The paper was found useful in looking at information seeking and use across a business / product development or design process. This also provides a good understanding of the variation of information need, search, retrieval and use across a business product that could be generalized across businesses with some amount of testing this model on other products designing processes.

Another study on the information seeking and use behavior of economists and business analysts as a group was undertaken by Thivant (2005). In this study Thivant looks at the information seeking and use problem in a professional context and how activity influences practices in the case of economic analysts. The study compares the situational approach, described by Cheuk (1998), the work environment complexity and the information seeking and use strategies, based on the Ellis and Wilson model, with Bates's comments.

The data collection was carried out with help of interviews of eight economists using a questionnaire and the SICIA (Situation, Complexity and Information Activity) method. The SICIA method is a qualitative approach, which underlines the relationship between situations, professional contexts and strategies.

The study found similarity in information seeking and use strategies used by these two groups in most situations. But some differences were also found that were attributed to the activity frameworks and goals.

The interviews were held in two phases; first the interviews of internal librarians were taken for preparing questionnaires and then the economists and analysts were questioned on their information activity practices and about the different situations they met during their searches. For economists two different questionnaires were developed: 1) The first questionnaire, composed of twenty-six general questions, to discover their activities and to see if they used technological tools; 2) a second questionnaire was developed, according to the SICIA method. This approach compares the information seeking and use situations, from the real life of professionals, with the means and available strategies used. The qualitative questionnaire consisted of four parts: a first page is the questionnaire followed by pages that explain the terms used to describe the information seeking and use situations, the different environments and information seeking strategies. They were asked to explain their information seeking and use steps in their work environments.

The situations considered were new, transitional, facts, problematic and decisive situation. For each situation the strategy was described combined with different means like personnel, technological and human adapted for the environment. The complexity of the environment was in six levels of simple technical, complex technical, simple social, complex social, simple personal environment work and complex personal environment work. The complexity of information strategy level was described in eight levels of means strategies, techniques strategies, browsing strategies, cross-checking strategies, monitoring strategies, selection strategies, checking strategies and reinforcement or strengthening strategies.

The findings of the study included:

1 The economists and analysts did proceed identically, especially for three important cases: in new, problematical and decisive situations. The most difficult to define were the transitional and facts situations, because they used different information seeking strategies according to habits, practices and perhaps tools and means.

2 It appeared clearly that there is a homogenization of information seeking and use behavior.

3 Economists and analysts widely use the same environment and have similar means.

4 Since these economic studies do not have the same goal specific situations should be recognized (the financial analysis objective is different from national or regional economic studies). The study reports that this explains why economists and analysts tend, in a facts-driven situation, to use different strategies.

Ko, DeLine & Venolia (2007) study the information needs in collected software development teams and attempt to analyze software developers' day-to-day information needs. The main issues that were looked at were as to what information the subjects seek, where they seek this information and what are the barriers to find this information.

The sample included observation of 17 developers at a large software company out of 250 developers among which about 49 volunteered. The observations were transcribed based on their activities in 90 minute sessions. The logs were analyzed for the information that developers sought, the sources that they used, and the situations that prevented information from being acquired.

The observations revealed 334 instances of information seeking that was generalized into 21 information needs and each was detailed with outcome and source. The most frequently sought information included whether any mistakes were made in code and coworkers have been doing. The most deferred information included knowledge about design and program behavior. Developers rarely gave up information searching

but had to defer tasks only when the only source of knowledge was unavailable coworker.

The most difficult to satisfy were design questions: for example, developers needed to know the intent behind existing code and code yet to be written. Other information seeking was deferred again because the co-workers who had the knowledge were unavailable. Some information was nearly impossible to find, like bug reproduction steps and the root causes of failures.

2.1.5 BUSINESS INFORMATION NEEDS OF SPECIFIC TYPES OF COMPANIES FROM SPECIFIC LOCATIONS AND GEOGRAPHICAL AREAS

Roberts and Clifford (1986) studied the information practices and behavior of manufacturing firms in UK with a focus on looking at the regional variations in the demand and supply of business information. Personal interview method was adopted for data collection among the randomly selected manufacturing firms in Lincolnshire, Cleveland and Greater Manchester based on Kompass. Information suppliers like librarians, planning departments, small business advice agencies were also interviewed along with representatives from companies and the total sample was 59 in number.

They found that geographical areas did not have any have impact on the subjects perceptions of their information situation and also on either the type or quantity of demands for external information. Majority perceived the access to sources of information as relatively easy. Information acquisition failure was found to be relatively uniform in all regions. The results also reflected that really important information was always found when needed and the authors also imply that, at the same time, an attitude that acquisition and use of information are not activities requiring careful forethought and systematic application.

The variables influencing demand are many and complex and these include: the nature of products and markets, organizational states and size, job responsibilities and, crucially, personal attributes of managers. In addition to this, firms operating in areas of high technology tend to be active seekers of information. The study also reports that there was no sufficient evidence of demand for external information. Among the main and immediate 'causes' of searches for external information were deficiencies of knowledge in the areas of marketing, products, exporting, finance, competitors and patents. Public libraries had been ranked high as one of the many sources used to satisfy such demands.

Reid and Webster (1993) study the business information needs and supply in Scotland. The main focus was on identifying information needs of industry and commerce in Scotland, how these needs are met and identify the gaps in business information provision.

The questionnaire survey was conducted among 1000 companies in Scotland and 262 completed questionnaires were received. Selected respondents were also interviewed through telephone and face-to-face and the selection was based on perception of regular usage of business information in addition to a select group of major business information providers.

The results indicate that the most used information was suppliers / sourcing (44%) followed by marketing information / research (38%), training (36%), financial assistance (36%), competitors (35%), employment legislation (34%), credit checking (32%), product specification (31%) and the lowest used were importing (8%), patents (10%), exporting (16%). The frequency demand indicated that in the 1-5 per annum category, employment legislation (63), financial assistance and training (49) were on the top. In the 6-25 per annum the top of the list were suppliers / sourcing (33), credit checking (30) and marketing information / research (28) and in the 26+ category the highest were suppliers / sourcing (44), European legislation (31) and employment legislation and product specification (21). In the section on percentage of people facing difficulties in seeking specific information, in the top of the league were Eastern Europe (38%), European legislation (32%) and property availability (29%).

In the information providers category district / regional council was rated at the top with 54%, followed by trade association 47%, local enterprise companies (41%) and chamber of commerce 41%. The lowest rated was Scottish Business Information Service (National Library) with 10%. The survey also reveals that topics which were

important in the future were information on legislation, health and safety, market research, company information and technological developments information.

Reuters Business Information (1994) commissioned a survey of business managers to investigate the usage, flow and politics of information in and around Britain. The aim of the survey was to explore how effectively the information is used by business managers in Britain. The data was collected through confidential telephone interviews covering a 12-part questionnaire from 515 business managers from around Britain. From the total 515 respondents, 288 were of director/senior manager level and 227 of middle manager/executive level. The sample was selected randomly within the sampling constraints of industry sector and company size (over 100 employees) with a deliberate bias towards the larger businesses.

The relevant findings of the study indicated the following:

1. In the external sources, newspapers/journals were the most used and perceived as the most important and reliable source of information.
2. Online information was considered the third most important source of information on a day-to-day basis, following newspapers/journals and word of mouth.
3. Word of mouth/meetings/personal contact were rated as the least accurate or reliable source of information.

4. Market reports, company reports and external online information sources were considered twice as accurate and reliable as word of mouth.
5. Online information was particularly sought after in the manufacturing / engineering and retail / distribution sectors.
6. Finance/banking/insurance sectors used the external online information sources the most while retail/distribution sectors were the lowest users.
7. A very low number, 4 out of 515 reported company libraries as a source of information.
8. Easy access and free flow of information was rated very important and nearly 60% reported 'time wasted' in searching for information
9. About 69% of the managers feel that information is hoarded by senior management.

Edwards and Ewers (1998) report five key findings of a survey conducted in Australia to determine where and how business information is sourced, which information source is used and its frequency of use and barriers to sourcing business information. The method used was questionnaire survey and the instrument had 28 questions and most commonly used scale of 5 was adopted. The mailing list was 77 out of 287, i.e., 28 % response rate. The sample included 16 architect firms, 15 barristers, 12 engineers and 34 small businesses managers (broken down into three groups of 1-6 employees, 7-11 employees and 12-20 employees).

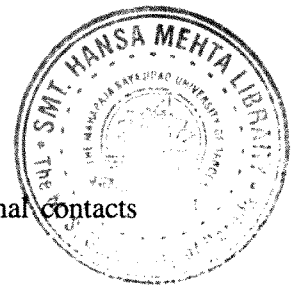
The main findings of the study reported were: (1) commercial information services had great potential for medium small businesses; (2) generally internal information services were used frequently to source business information; (3) external information services scored over internal information services for providing patents & standards access; (4) the majority of respondents had never used a library service that was fee based and (5) the Internet was the most relied upon electronic form of information resource.

de Alwis & Higgins (2001) have researched on information as a tool for management decision making, developing a case study of Singapore. The study looks at the how Singapore's managers behave as information users and compares it with counterparts in other countries as reported in the existing literature. The main issues addressed in the study were what information sources were used and importance of different domains and also correlation between hierarchical and functional levels.

The members of the Singapore Institute of Management (SIM) were considered for sample selection. Purposeful sampling was adopted and limited to one category of SIM Members, namely the Ordinary Membership as they would be at least 32 years of age, possess a minimum of a Diploma qualification and have at least six to eight years experience in a senior management position to ensure managerial and decision making experience. A total of 20 members, from the 369 questionnaires mailed, responded to the survey (response rate of 5.2%). Eleven of the respondents belonged to the age group of 35 - 44 while 16 of the respondents were males and eight of the respondents had a minimum of a Bachelor's degree. The industries included

manufacturing sector (6) and management consultants (5) while the job function showed 5 were from the marketing sector. The level of authority represented included Top management (5), senior management (7) and middle management (4). The size of the company represented by the respondents included six from companies with over 1000 employees, four from companies with 201-500 employees and three from companies with 501-1000 employees.

Competitor trends followed by regional economic trends were considered very important for decision making. Types of information considered important included business news followed by political, social, and supplier trends, regulatory information, use of information technology, demographic trends and new management methods. The sources that were given very high preference rating were personal contact for competitor trends and the use of government publications for obtaining regulatory information in addition to their preference to use government publications for local economic information and the use of newspapers for political trends and business news. Internal computer printouts were found useful for forecasting information and company performance. The study also reported that subordinate managers were referred for information on the use of technology, forecasting, and company performance. Information on political trends, international and local economic information and competitor trends were associated with company library as access to newspapers (very high usage) and business news was through the library. Radio and television, though rated low were used to obtain regional and local



economic information in Singapore. As reported in other studies personal contacts were very popular sources of information.

Huotari and Wilson (2001) conducted a series of investigations across academic and business institutions to determine organizational information needs. Four case studies carried out in UK and Finland were the base for this research that attempts to use CSF method as a component of other methodologies like Strategic Information Management (SIM) / Value Chain and assess the success of these applications. SIM helped in assessing the organizations performance and its competitive ability and in turn provide value to its customers (Porter, 1985). The purpose was to look at whether information intensive areas of an organization could be identified within the value chain using CSF method to indicate critical areas and thereby identify corporate information needs.

The first pilot study was on information needs of 20 academic heads of departments in University of Sheffield. They were interviewed using the CSF technique to elicit their information needs in managing their departments and not in their teaching or research. Consequently the study included senior administrators like finance officers, registrars, management information officers, university librarians, etc. The results of this study included:

1. Heads of Departments relied on extensive networks of informal contacts for management information and this was supplemented by more formal sources.

2. Libraries were not expected as sources for management information.
3. Internal information like financial management that was provided to them was often inaccurate, too intricate or not user friendly and out of date.

The second study was conducted in University of Tampere in Finland where interviewees were selected from all parts of the university like the strategic apex, the middle level, support staff, techno structure and operative core. The study looked at Information Management (IM) as a CSF and removed operative core from the study. In this case it was found that information flow was partly one way with poor feedback systems. The study indicated that for internal information formal contacts played a key role in the university and informal contacts played a minor role. External formal contacts were most frequently used by middle level and strategic apex. External informal contacts were most used by those responsible for information management in the university.

The electronic IS played an important role and was most frequently used for external information. External manual sources like publications, news letters, scientific journals and reports were used in addition to organizations, consultants and services on statistics. The internal formal sources like MIS reports were frequently used along with in-house magazines, newsletters, plans, minutes of meetings, books, etc. Email and face to face contact were popular internal information channels and phone was used for external information.

The third study of a pharma company in Finland revealed that IM and human resources played a critical role followed by marketing, R&D, resources in general, production and quality assurance, general management and finance. Fourteen interviews were conducted in the most strategic part of the company, i.e., R&D. Internal information flows were considered very important. The study also indicated that IM was a critical area and strongly related to the performance of a pharma company especially for its R&D department.

The fourth study was of a publishing company that was within the publishing and printing division of a group and was at that time third largest in Finland. 15 interviews were conducted for the study and importance of human resources, products and marketing knowledge was stressed followed by IM, customer relations, efficiency and speed and general management. IM was considered a CSF but not as important as in the pharma company. Quality of information was primary concern for IM along with IS infrastructure.

The series of studies indicate that CSF approach is important in identifying organizational objectives and then relate this to information needs and this facilitates building strategic information systems for competitive advantage.

Mendoza & Bescos (2001) study the information needs of managers from 11 major French companies and look at the managerial purposes of information need and their perception of missing information and satisfaction. In the process the authors identify factors that determine such needs and consequently propose a model that examines

impact of variables on the needs and also keeps in view the managers individual search behavior.

The research method adopted was questionnaire based interview for data collection and the sample included 120 executives including sales managers, plant managers, executive officers, subsidiary presidents, R&D managers and production managers. The companies were in textile, insurance, energy, construction, pharma, IT, agribusiness and other sectors. The questionnaire collected data on managers education, career path, function, size of company managed and objectives pursued, documents that managers have at their disposal and documents they have used, type of information sought like costs, customers, products, competitors and internal operations and unmet information needs and missing information.

Some of the findings of the study were:

1. The managers (40%) expressed high level of satisfaction with information that they have at their disposal.
2. More than two thirds indicated that there are missing information that could be useful.
3. The managers who are most critical of information provided are those who work in poorly performing companies and also public sector companies' employees (due to delayed implementation of modern information systems) expressed a higher level of dissatisfaction.

4. The desire for timeliness and personal information systems is important.
5. Personal information sources are used by every manager.

Tibar (2002) reports the study on the critical success factors and related information needs in Estonian industry. The sample consisted of 27 managers and engineers from 16 manufacturing companies in various industries. The CSF method was adopted in identifying the information needs of managers and engineers in various industries.

The CSF's identified were related to marketing, information management, quality management, product development and technological innovations. The information needs of managers and engineers were related to competitors, customers, markets, technology, and regulations.

The companies selected for mailing were 25 manufacturing companies, the winners of the contest of Estonian Industry TOP 50 in 1998. The final sample consisted of 27 managers and engineers from 16 companies which agreed to participate in this study and they were from 7 medium-sized enterprises (50-249 employees), and 9 large enterprises (more than 250 employees). The sectors covered were food, chemical, transportation vehicles and devices, energy, furniture, electro technical and electronics and textiles. The designations were as varied as export and marketing director, manager of quality centre, quality manager, chief engineer, process engineer, IT specialist, production director, product manager, IT manager, purchase manager, chemical engineer, product development manager, assistant director of engineering

centre, design engineer, CAD engineer, assistant production director, head of the department, head of the sector, leading engineer, general director, development manager, chief process engineer, manager of quality service, manager of new technology group and quality manager.

Related to the CSFs the information needed by managers and engineers were found to include competitors, customers, suppliers and other market information; products and technologies (information concerning product development and technological innovations); resources (information on finance and workforce); legislation and regulations (legal acts, directives, standards, norms); economic and political trends.

The CSFs approach facilitated focusing on priority areas for Estonian industry and their related information needs. Marketing as a CSF was mentioned the most. Information management also appeared to be a very critical factor in order to disseminate and manage internal and external information. The quality of manufacturing and products was also given a high rating.

Pezeshki-Rad & Zamani (2005) explore the information-seeking behavior of Iranian extension managers and specialists. The research issues addressed in the study included subjects motivations for information seeking and use, sources of information, channels of information, and barriers to information seeking.

The sample consisted of 36 (out of 38) public extension managers across the country and 108 (out of 175) public extension specialists. A questionnaire was developed and included demographic information like age, sex, marital status and levels of education; reasons for seeking information; use of information sources (16 listed) and channels (11); and organizational barriers to information. Data was analyzed using SPSS.

The findings included:

1. The average age of managers was 40.67 years and for information specialists it was 34.85 years. More than 94% were male in case of managers and about 50% for specialists. About 44% of managers had masters degree and 21% specialists also had same qualifications. The experience in extension activities ranged from 1 to 24 years for both.
2. Managers were very satisfied with the job (social position) and both groups were unhappy with the salary.
3. In the section on motivation for information seeking the most important factor was interest in developing job related information (to improve organizational tasks), to update specialized information was second most important factor for managers and to do job tasks was second most important factor for specialists.
4. The most important of information sources for both were Persian books, Persian scientific magazines and scientific technical reports.

5. The communication channels of interpersonal communication with colleagues, in service training courses and scientific technical conventions were ranked high (in order of importance) by both of them.
6. Among the barriers, lack of time flexibility for doing job tasks, job complexity and ambiguity in tasks topped the list.
7. The motivation to seek information and extent of use of information sources had a strong correlation for both groups.
8. A significant positive correlation was found between specialists' years of education and their level of job satisfaction with their information seeking behavior whereas there was a significant negative correlation between managers' years of extension work with their information-seeking behavior.

Kourteli (2005) studied the external environment factors for businesses in Greece with respect to perceived uncertainty, strategies used in scanning business external environment in Greece and the importance of sources of information in Greece.

The method used was questionnaire survey in North Greek industries. A sample of 600 Greek private organizations were selected using stratified sampling from a secondary source in Greece. The sectors covered were manufacturing, trade and services industries including organizations with more than 20 employees. 144 usable questionnaires were received (response rate of 24 %). The response rates in the industries of manufacturing, trade and services are 56.0%, 27.3% and 10.8% respectively.

In the questionnaire the respondents were requested to rate (stable, unstable or dynamic) complexity of external environment. The level of uncertainty of the general external environment was measured by ten items: social values, educational, political, economic, legal, behavioral, demographic, natural environment, natural resources, and technological (on a scale of 1-4). Similarly level of uncertainty of the task environment was measured by six items: consumers, competitors, suppliers, labor market, industry, and financial resources. The respondents were also asked to select the type of scanning strategy - predetermined, flexible or innovative strategy. They were also asked about sources of information and whether information was received from: internal personal sources, internal impersonal sources, external personal sources (customers, suppliers, agents) and external impersonal sources (journals, newspapers, reports).

The results showed that:

1. Business external environment scanning of information is influenced by the characteristics of the organizations themselves and by the characteristics of the external environment within which the organizations operate.
2. Personal sources of information seem to be more important than impersonal sources; external sources of information are equally important with internal sources; and higher levels of environmental uncertainty are associated with higher levels of scanning various sources.

2.1.6 BUSINESS INFORMATION NEEDS OF COMPANIES BASED ON OWNERSHIP BY SPECIAL GROUPS LIKE ABORIGINES AND EXPATRIATES

Chaudhry & Crick (1998) investigated the information needs of different ethnic firms' and mainly their export information requirements. The study looks at the perceived usefulness of export information sources and types of information required by ethnic firms', Asian and indigenous (white) owned small and medium enterprises (SME) in the UK.

The methodology adopted was postal questionnaires and telephone interviews of the sample limited to SME's Midlands in UK due to time and cost considerations. The sector chosen for the study was clothing industry as it was an area of high employment for entrepreneurs from Asian background. The sample also focused on firms with employment of not more than 200 employees. The sample size was of 25 exporters and 9 non exporters out of 89 and 30 firms respectively. The response rate was almost 29% in total and 28% for exporters and 30% for non-exporters. For the sample of indigenous owned firms 34 were included, being drawn from a local clothing industry directory. For selection of this sample every second listed firm was called up and for every refused company the next was attempted for participation in this study. The mismatch in the sample was that out of 34 about 10 were marginal exporters.

The t-test procedure was adopted as a simple analytical technique to establish statistical differences between the two groups.

The Findings suggest that:

1. Asian firms rated usefulness of most sources (6 out of 8) lower than the other group.
2. Government sources, banks and libraries received lower rating by both the groups.
3. High rated sources for both groups were intermediaries like overseas agents and UK agents.
4. In the types of export information required there was a significant difference between the groups, with Asian rating high most of the types of information when compared to others.
5. The most important information for Asian firms was market growth rate followed by exchange rate fluctuations and price trends.
6. For indigenous ethnic firms the most important information was ways to adapt product for market followed by international competition in market, government aid to exporters, buyers preferences in market and market – social / political background.

Vodden, Miller & McBride (2001) conducted a research for the Western Economic Diversification and British Columbia Ministry of Small Business, Tourism and

Culture to determine the business information needs of the Aboriginal entrepreneurs and service providers. The primary data for this study was collected from over 250 respondents through informal interviews, questionnaire and focus groups techniques.

The findings of the study included - most of these entrepreneurs were under the age of 30, motivated by a desire for financial independence, seeking new markets, operating from homes, operating in a wide range of sectors like fishing, forestry, arts and crafts, retail, construction, tourism, hospitality and other services like consulting and professional services. Most important types of information content included financing options, business planning, government programs, markets and marketing, taxation, suppliers, distributors, banking, legal and home based business information. Education and skills training was required at startup and operation stages of a business.

For startups, case studies of successful entrepreneurs was beneficial, information on trends and new opportunities was useful in on-going operations. Most of the respondents preferred information in person and or in seminars and most often, sought information from familiar "safe" environments at home and in their communities. Interest was also shown for internet as a source of information for research, marketing, etc. The study covers in detail the organizations and programmes existing to address these needs and also makes comprehensive suggestions and recommendations to the ministry for implementation.

2.1.7 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

Hill, Michael W. (1986) reviewed existing research in the UK on the information needs of the small and medium businesses. In the review he starts with the nine characteristics of information service (Hill, 1979) to industry which can be said to form characteristics of information. They are: relevant, easily understood and applicable, timely, easy to use, format friendly, accessible, reliable and tested channels of dissemination, valid and affordable. In fact though these criteria were meant for evaluating an information service these are valid as characteristics of information itself and can be seen in many later studies and also has found similarity in LIBQUAL for assessing service quality.

The second research that is reviewed is of that by Kennington (1984) and the salient findings of the study that are reported and of interest to the present study are:

1. small businesses do not form a coherent group
2. the information needs of this sector are closely related to day-to-day problems and facts are needed to make decisions at short notice, nevertheless, the manager is often unable to define or understand his problems and the consequent information needs.

3. most information in small firms passes verbally, especially that involving suppliers and customers.

The third study reported is that by Trot (1986), on small firms that included identifying a number of small firms and information provider supplying an information service designed for their needs and then reviewing the assessment of the service by these firms. The conclusions of this that are relevant are:

1. there is a need for fast and efficient service that is easily accessible
2. dedicated people for information service
3. they will pay if the service is beneficial in long term also
4. awareness of information services is less
5. trade associations are heavily relied upon for information
6. marketing information was most sought after, followed by technical and the last was research and development

The paper goes on to review similar studies but the relevance of the paper is in appreciating the fact that information needs of small firms were reported to be mainly on day-to-day operations and less on strategic type of information but we may also note that being unaware of information services may be one of the short comings in management of small firms.

Olanigan (1987) looks at the information needs of consultants to small business enterprises. The study focuses on the relevance of information for business and the critical role that it plays in the functioning of all types of business enterprises and Olanigan goes on to describe the role of a consultant to a small-scale enterprise in accessing and using information relevant to the client and also talks about the barriers to accessing timely and relevant information for small-scale enterprises in Nigeria. The paper refers to the works of Duke (1985) and Streatfield (1984) on information needs of senior managers in the industry.

The author explicitly describes the types and sources of information required by consultants of small scale enterprises. The main categories of information needs of such businesses that were considered were:

1. Capital procurement and mobilization
2. Management training for managers of small businesses
3. Technological know-how
4. Knowledge of existing policies, practices and regulations
5. Marketing
6. Foreign trade

Fredenberger, Dethomas & Ray (1993) attempt to identify information needs of businesses that were in distress by researching the information needs of turnaround managers who were basically consultants, specializing in turnaround consulting and

were members of the Turnaround Management Association, a non-profit association in North Carolina. The pilot study to test and finalize the questionnaire had 14 respondents. The sample in the study consisted of 100 completed questionnaires out of an estimated 150 turnaround managers in the association.

The respondents were members of firms that had on an average seven consultants and about $400 000 in assets. The location profile of the businesses mostly included New York, Texas, California and Illinois and the average age of the respondents was 45 years with about 23 years of work experience, and nine years of turnaround consulting experience (5-15 firms experience). Masters degree qualifications were held by about sixty-one per cent of them. The sectors of experience (turnaround) were mostly in manufacturing and then in the service, wholesale, retail and construction industries, with average assets and revenues of about $60 million. Interestingly about 50% would be consultants and about 30 % become interim CEOs.

The study looks at what information is important, what information is available, the characteristics of important information, and uses of that information. The first major finding was that, information that was important to the respondents was not available easily and these firms in distress or financial crises were also experiencing information crises. The second major finding was that respondents felt that financial information was the most important followed by working capital, market, cost, personnel, asset and expense. The study found this in line with earlier literature on turnaround research and one of the observations on favoring finance information was

that liquidity was of prime importance during a crisis and also that turnaround consultants were mostly from finance, accounting and control background.

The other finding was that the respondents did not prefer aggregated reports and required detailed reports. The information preferred was current and the most preferred sources were employees and MIS.

Johannessen & Kolvereid (1994) address mainly the research question of how entrepreneurs seek information during the business gestation phase and what influences their information search behavior. The sample was taken from a population of 3503 persons who had called a toll-free entrepreneur help line. The questionnaires were sent to 2626 (877 were anonymous). The final sample consisted of 403 respondents with average age of 36 years, above 20% were female and 38% were unemployed when they started planning a new venture.

The results indicated that age is negatively related to information search among family and friends and among those who sought information from family and friends, women were majority. Education was also found to be negatively related to information search among all sources except written sources. Management experience was found to be positively related to information search from professional sources and industry experience respondents sought information from public agencies, professional advisers and written sources. Entrepreneurs who had reflected emphasis on profits sought more information among business relations and professional

advisers. Drive to see the venture successful was positively associated with information search among family and friends and professional advisers. Interestingly respondents in manufacturing were found to seek more information in written sources than entrepreneurs in other industries.

Kinnell, Feather & Matthews (1994) explore the business information provision for small and medium-sized enterprises in China with the application of marketing models. In the first phase of the study, a survey of business information needs of 13 enterprises was undertaken, followed by discussions with experts and backed by extensive literature survey on the subject. The sample consisted of firms having employees ranging from 98 to 10,000 and fixed assets up to UKP 1m were included from sectors like textiles, machine tools, electric motors, industrial boilers, offset litho machine, rubber seals, tyres, pharma, cigarettes, etc. Each of the 13 businesses were state-owned.

The findings were that the most sought information was, in order of importance, on finance, products and marketing. The unmet information needs were product information like standards, research and development and design; marketing information – international market structure, competitor analysis; wide ranging commercial intelligence – economic and social environments, investment opportunities, barriers to entry, etc. The study summarizes that in China the business information is difficult to access and if available, managers were unaware of the information.

In the context of marketing model application the study was summarized as follows:

- Product: Chinese managers valued business information due to its lack of availability
- Price: there is no tradition of freely available business information so there is no standardized pricing
- Place: The problem of information distribution makes Chinese managers use personal and informal contacts.
- Promotion: There was a dire need for this.

McDowell and Rowlands (1995) study the demand and supply of export information for small and medium enterprises (SMEs) in Northern Ireland by investigating their information acquisition behavior. The perception of the SMEs towards different sources of information, the types of information acquired, information seeking behavior and barriers to acquiring the information are focused upon in this paper. Postal questionnaire, semi structured interviews and desk research was employed for this study. Based on the Directory of UK Exporters questionnaires were sent to 100 companies (out of 114) listed in the directory and located in Northern Ireland. 52% response was achieved in the data collection process. The desk research included interviewing (1 hour) one senior personnel in the leading business information centres (listed in the survey of Business Information Needs by the Business Information Forum).

The findings of the study included:

1. In the section under sources of business information, Market Intelligence Centre was the most used (69%), followed by trade and professional associations (47%), Northern Ireland Chamber of Commerce (43%), Department of Economic Development (39%) and so on. The lowest used were the Department of Health and Social Services, Department of the Environment and Local Enterprise Agencies (4%).
2. In the level of satisfaction ratings CBI (100% satisfaction) was the best followed by trade/professional associations (96%), the Northern Ireland Chamber of Commerce (90%), commercial agencies/consultants (89%) and the Market Intelligence Centre (85%).
3. Market, competitor and financial information were the most used information type and insurance information was the least demanded.
4. Market information though perceived to be the most important, was also the most difficult to acquire. Finance and transport were mentioned as easiest to acquire.
5. Companies that prefer electronic information found significant difficulty in acquiring the information.
6. Only one company had in-house facility for business information and 52% of respondents preferred print information.

Fredenberger, Lipp & Watson (1997) investigated the information needs of turnaround managers, who specialize in reviving failing businesses to determine the information, characteristics of the information and availability of the information they require when the financial crisis occurs. The sample had 14 turnaround managers identified by the executive director of Turnaround Management Association from its 150 members. This was used in development of the survey instrument. Final sample consisted of 100 respondents. The respondent profile was 45 years average age, about 23 years of work experience, 9 years of turnaround consulting experience, 61% had masters degree, and they had on an average worked for about 5-15 firms engaged in turnaround in the last three years.

The results showed that financial, working capital and market information were rated important (in order of importance), important information needed is not available at the beginning of the turnaround engagement, detailed information is more important than consolidated information, current information has greater value than historical or past information and the most important objective of the all types of information analysis was to improve cash flows.

Leonidou's (1997) conducted an empirical study of the information requirements of 80 Cypriot exporters. The study attempts to find the extent to which the exporters use various types of information, frequency of use, the importance of each of these information types, effect of organizational profiles on type of information used and effect on information requirements by the internationalization behavior of firms.

The study covers textiles and wearing apparel and food and beverage sectors in Cyprus. The sample target was 80 exporting firms randomly selected from directory of Cypriot manufacturers (from a total population of 320 firms). Personal interviews were conducted with individuals responsible for export activities in their organizations and were mainly designated as export managers, marketing directors and CEOs.

The study analyzed the data at aggregate, organizational and internationalization levels. At the aggregate level the analysis focused on incidence of usage, frequency of use and usefulness of export information types. At the organizational level industrial sector, organizational experience, number of employees, size of sales turnover and value of corporate assets were analyzed and at the internationalization level effect of export intensity, export profitability, experience in foreign business, number of foreign markets and principal export destinations on information needs were examined.

The conclusions of the study included:

1. At the aggregate level overseas customers, international competitors, market preferences, products and pricing were the most important of the information needs.
2. In contradiction to earlier studies (Benito et al), with few exceptions the more useful a specific information type the more frequently it is used.

3. Though information on product and pricing were used frequently and also considered important the other elements of marketing mix were not given much attention.
4. The parameters of industrial sectors, business experience, company size (measured in terms of number of employees, sales turnover, or corporate assets) did not affect either frequency of use or usefulness of information types. This finding contradicted earlier researches that claimed significant variations in information behavior, particularly in relation to industry type and firm size.
5. Some organizational dimensions played a significant role in information behavior like fashion sensitive industries gave importance to market preferences, established firms show more interest in socio cultural data and companies with high asset value need more technological information.
6. Internationalization factors had little influence on information behavior and did not have any major impact on information needs.

Yuan, Wang & Wang (1999) researched on the demand for business information service of firms in Taiwan using the case of Hsinchu Science-based Industrial Park and Hsinchu Industrial Park. The work is a case study research on business information needs of small and medium businesses in Taiwan. This questionnaire survey attempted to understand the demand motives, awareness, interest, evaluation items and purchase intention of the sample towards business information. Though the paper looks at evaluating information services that are mainly external to businesses, the study is of value, especially the part dealing with business information needs.

The study included 423 firms from the directories of a science based industrial park in Taiwan. Questionnaires were mailed to 417 firms out of which total valid questionnaires were 121. The four main dimensions reviewed in the paper are awareness and motives, interest, evaluation and purchase intention. The first dimension included sources of business information services (15 were identified), sources of purchased information (12 identified), current awareness (fully, a bit or not ware) of availability of such information and motives (8 were identified) to purchase such services.

The 12 sources identified were associations, visitors / sales, periodicals, exhibitions, experts' recommendations, relatives or friends, internet, competitors, libraries and electronic media. The eight possible purchase motives considered in the study were gaining professional knowledge, seeking objective viewpoints, reducing costs, buying time, identifying problems, reference for decision making, investment evaluation and elevating knowledge of employees.

The dimension of interest looked at the information that they would be interested in like economic cycles, finance and loans, supply and demand, raw materials and products, production and sales, government policies, IPR, patents, markets, technology, new products, etc. The service items that they would be interested in were real time information service, professional electronic database index /full-scale service, newspaper clippings / periodicals / librarian information services, seminars on industrial activities, publications analysis on related industries / products /markets,

research service provided to one single firm, research service provided to multiple firms, consulting services, services provided on membership basis, training courses on industrial research, and patents map / legal consulting services.

The evaluation aspect looked at were reputation and credentials of provider, objectivity, confidentiality, and after sales service. The purchase intention was rated on a 4 point scale from very interested to not interested at all.

The results included:

1. Major sources were newspapers and magazines (22.9%), seminars (14.5%), exhibitions (14.5%), competitors (13.13%), associations (10.5%) and so on.
2. In the purchased information category, the highest ranked were periodicals (21.4%), seminars (15.6%), associations (7.8%), and so on.
3. Awareness was very high with 25.3 % saying that they were fully aware of the services.
4. Motive for business information was highest (ranked by average) on decision making (4.12), identifying problems (4.09) and the last were elevating employees knowledge (3.44) and reducing costs (3.43).
5. There was no significant difference in different industries in use of business information for decision making.

6. Raw materials and product prices were highly rated with 4.46 (ranked by average), industrial developments (4.43), technological developments (4.26), etc in the business information of interest.
7. In the services of interest, seminars rated high with 4.06 and patent maps / legal consulting was lowest with 2.86.
8. In the evaluation of service providers the highest was confidentiality 4.53 followed by availability of real time information 4.43 , prospective information 4.42 and the lowest was scale of providers (3.45).
9. In the analysis of purchase intention 27.3 % were very interested in purchase.

Yeoh (2000) explored the information search efforts and information source use and impact of information acquisition on export activities in global start-up exporting companies. The variables considered in the study were information source characteristics, firm strategic orientation, environmental characteristics and organizational characteristics.

The sample was drawn from a secondary source and the companies selected were start-ups involved in exporting for the past ten years. Questionnaire was developed with the help of experts and pilot survey conducted on 20 firms from 5 industries. A final sample of 180 out of 500 firms was achieved from the industries like industrial machinery and equipment (26%), electrical and electronic equipment (21%), chemicals and related products (22%), semiconductors and computer-related products (18%), and telecommunication equipment (13%). About half the firms had less than

five years of international experience (48%). Most of the firms were small: 47% had fewer than 50 employees. Approximately 49% of the firms had total sales of more than $10 million. The sources of information in three categories of personal, quasi-governmental and documented sources were considered for internet, visits to foreign markets, contacts with suppliers, distributors, trade fairs and missions, chambers of commerce, government export promotion programs, foreign commercials / attachments, trade publications, industry / trade associations, periodicals and magazines.

The results included:

1. There was a significant correlation between usefulness and use of information sources.
2. Firms do not totally rely on a single information source, particularly with respect to personal and documented sources.
3. Information search and export performance were positively related.
4. There was a non significant relation between environmental complexity and information search. However higher complexity was related to use of personal sources.
5. Similarly size of firm and information search was not related.
6. Findings on firm performance support the notion that firms that engage in greater information search and those that rely on personal and quasi-government information sources tend to have higher performance levels.

Shokane (2001) researched on the use of business information by small and medium sized enterprises in Acornhoek through a study of information needs of business managers, how they use and handle information in their business enterprises. The geographical area under study was situated in the Bushbuckridge, a rural area of South Africa with a population of approximately one million and two hundred thousand people. Based on the literature review, a survey method using pre-structured questionnaire was adopted. The sample population for this study was selected using non-probability sampling, i.e., purposive sampling. The sample of this study consists of thirty-five (35) business enterprises. The questionnaire was distributed to a total number of thirty-five (35) small and medium sized enterprises in Acornhoek. Thirty-two (32) questionnaires were personally collected.

The business composition of the sample included retail 15%, service 31.3%, Franchise 15.6%, Manufacturing 9.4% and Sales 25%. The firms varied in terms of number of employees and the sample included firms with 0 employees – 18.8%, 1 to 4 – 37.5%, 5 to 10 - 28.1% and one firm each in 21-30 and 31-40 employees. The designations of the respondents were owner (18), co-owner (5), manager (6), deputy manager (2) and employee (1). The mean age of sample was 40 years with oldest at 59 years and youngest at 28 years and in all about one third were females. About 40% had tertiary education and about the same had secondary education.

In the section on frequently used information sources customers (84%), suppliers (81%) and local, friends and relatives (68%) were rated high and in the lower end of

the spectrum were patents, standards, textbooks, handbooks, research institutes and libraries with only 3%. Internet was also rated low by popularity among the information sources used. The findings on frequency of usage of these information sources were also similar. In the rating of type of information, government regulations was rated by 40% of respondents as not important followed by environmental information and technological information. The lowest rating in not important information was given to information from suppliers and customers and on financing the business. In the section of aspects of information current, accessible, usable, free, reliable, accurate, clear, relevant and comprehensive were considered very and somewhat important and in the section on very important included current (26), accessible (24), reliable (22), accurate (22), usable (21), relevant (21), comprehensive (19), clear (19) and free (16). Discussion with colleagues, email, discussion with subordinates and conferences were perceived as important channels of information.

Barrett (2003) undertook a project on Development of the Latrobe Small Business Network to gather information about the needs of the small business in Latrobe city with larger objective of developing small businesses. The study follows the definition (of Australian Bureau of Statistics) that small businesses will have employee strength of less than 20 numbers. Looking to the characteristics of local businesses the study included businesses up to 99 employees to further strengthen the understanding and also to address the needs of this sector.

The sample included 276 businesses out of the 842 listed in official list. Among them they employed about 1708 people. 89% of the businesses operated from a single location and two thirds were operating since last 20 years. The sectors covered were agriculture, forestry, fishing, manufacturing, construction, retail, cafes, restaurants, transport, real estate, health, etc

In the information sources section the sources included (in order of importance) external accountants, other people in the industry, family, banks, industry associations, tax office, friends, other local businesses, lawyers, other non-local businesses, state government agencies, consultants, federal government agencies, chamber of commerce.

The types of information included (in order of importance) were products or services, staff training, marketing or advertising, administrative / accounting computer system, markets, employment practices, management training, production technology, e-commerce / internet sales and distribution. In the section on seminars or similar programs attended the topmost was marketing (19%), followed by product / service training (17%), Tax office information session (10%), formal networking (10%), and so on.

The specific areas that information was required by small businesses were insurance, taxation, staff training, business planning, marketing, advertising, management

training, succession planning, e-commerce, access to finance, HR and industrial relations, counseling, franchising, importing / exporting and others.

Crick, Dave (2005) examined managers perceptions of overseas market information sources, their usefulness, utilization and perceptions of types of data required in the context of SME firms in the UK. The method used was postal questionnaire and personal interviews (20). From about 2000 questionnaires and a expectation of 20% response, 448 questionnaires were received out of which 2 were incomplete. Finally the sample included 170 employing export strategy and 276 employing multiple modes.

The findings of the research were:

1. SMEs rated their own market research high along with the network of personal sources and Internet.
2. Formal sources were rated low by the subjects. There were about seven statistical differences between the groups.
3. In the section on utilization of marketing information sources the top ones were own marketing research team, own sales force in UK, network of social contacts, agent overseas and internet. The low ranked ones were agents in UK, Business Link, market research agency, Foreign and Commonwealth office and library. There were about 12 statistical differences in the groups perceptions.

4. In types of information required the exporting firms ranked competitive products available in market as the top most and multiple modes firms rated them as third after potential barriers to operating in the market and market growth rate. International competition in the market was ranked second by export firms and price trends were third in comparison to the seventh and fifth ranking by multimode firms.

2.1.8. SUMMARY OF THE LITERATURE REVIEW

The literature survey conducted in the present research study has been an attempt to look at existing research published on business information needs of the corporate sector. In the process the secondary sources, predominantly looked at were Business Source Premier, ABI Inform, Taylor & Francis, JSTOR, Sage, Science Direct, OUP e-bundle, Blackwell, Kluwer, Springer, IEEE Digital Library, ACM, ASME, ASCE and Wiley Interscience databases in addition to Google scholar. Totally 64 published studies were found directly relevant to the present research on business information needs of the corporate sector. The studies included in this section have been classified into seven sections and their coverage is indicated as follows:

1 Models and theory of business information needs.

This section covers research on information needs theory, models and behavior with applications in the business context. This section also covers early literature on

information needs of executives or managers to provide a framework on the topic and ten studies were found relevant to this section and they included works by Titus (1936), Gorry and Morton (1971), Munro and Davis (1977), Rockart (1979), Wilson and Streatfield (1981), Derr (1983), Bidgood and Jelley (1991), Devadason and Lingam (1996), Cheuk (1998) and de Alwis, Majid & Chaudhry (2006).

2 Environment scanning and strategic information needs research.

This section covers literature published on information needs of the business sector with a broad focus on environmental scanning behavior and its various aspects as the core of the research. The section mainly looks at strategic perspective of an organization through the information needs study and its utility for the business. Six studies were found relevant in this section and they included Boulton (1978), Hambrick (1982), Daft, Sormunen & Parks (1988), Ramaswami, Nilakanta and Flynn (1992), Auster and Choo (1994) and Choo (1994).

3 Business information needs study of specific business sectors.

This section covers studies published with a focus on business information needs with the context of specific sectors of business like retail, banking, etc. Thirteen studies were found relevant in the search and they included Keegan (1974), Stevens (1975), O'Reilly (1982), White (1986), Scrivens (1987), Bruns & McKinnon (1993), Chalmers (1995), Bouchet, Hopkins, Kinnell and McKnight (1998), Broady-Preston

and Hayward (1999), Widén-wulff (2003) Vojak, Suarez, Peters, & Sundararajan (2005), Anwar (2006) and Serola (2006).

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

The published studies covered in this section are mainly focusing on managers in specific functions like marketing, finance, MIS, etc of a business. The studies (ten) that find mention in this section are Martin (1983), Anderson (1988), Morrison (1993), Vogt, Roehl & Fesenmaier (1994), Mangaliso (1995), Ellis and Haugan (1997), Mackenzie (2003), Thivant (2003), Thivant (2005) and Ko, DeLine & Venolia (2007).

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

The coverage of this section is mainly on studies that focus on information needs of businesses in specific locations like US, Canada, Australia, New Zealand, etc. The relevant studies found in the literature survey were ten in number and they included Roberts and Clifford (1986), Reid and Webster (1993), Reuters Business Information (1994), Edwards and Ewers (1998), de Alwis & Higgins (2001), Huotari and Wilson (2001), Mendoza & Bescos (2001), Tibar (2002), Pezeshki-Rad & Zamani (2005) and Kourteli, L. (2005).

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

This section covers studies on business information needs that focus on companies owned by special groups like aborigines, expatriates, etc. Two studies had been found that could be placed in this category and they were Chaudhry & Crick (1998) and Vodden, Miller & McBride (2001).

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 section covers studies that focus on companies that form a different group like small and medium businesses or large companies that are multinational in nature. The section also included studies that focus on companies in different stages like startups, firms in financial distress and companies in gestation. Thirteen studies (nine in SME sector and four in the other group) are included in this section and they are Hill, Michael W. (1986), Olanigan (1987), Fredenberger, Dethomas & Ray (1993), Johannessen & Kolvereid (1994), Kinnell, Feather & Matthews (1994), McDowell and Rowlands (1995), Fredenberger, Lipp & Watson (1997), Leonidou's (1997), Yuan, Wang & Wang (1999), Yeoh (2000), Shokane (2001), Barrett (2003) and Crick, Dave (2005).

2.2. RESEARCH GAPS

Among the studies there are few that cover different categories while there are studies conducted on specific industries within geographies or studies on specific functions conducted across organizations and industries and so on. An attempt has been made to categorize the existing literature by considering the main focus of the study and then classifying the studies in relevant sections.

In the researches that have been included here we find many studies with geographical contexts like US, UK, Australia, S. Africa, Canada, New Zealand, Scotland, Greece, Cypriot, China, Finland, Singapore, France, Nigeria, Ireland, Taiwan, Kuwait, Norway, Estonia and Iran. In fact some studies have looked at studies cutting across two nations. Studies have been conducted in different sectors like manufacturing, pharmaceutical, IT, banking, retail, nanotechnology, electronics, export businesses and so on. However there was not a single study in the Indian context and hence this attempt to look at business information needs of Indian businesses.

Also there are very few studies that have studied information needs of businesses across sectors and organizations in the same country and some of them which did cover these aspects used a small sample in the study. Though there are Indian names among the contributors whose studies have been included in the literature review, we do not find any study of Indian companies in the existing research.

In this context it would be interesting to look at the business information needs of Indian businesses. It is also seen as worthwhile to fill the gap in the existing literature on background of Indian managers, the technology they use at work, information they require, information sources they use, media used, search delegation, information provider or source, purpose of information requirement and perception of attributes of information they need. Another area where there is not significant research is in comparing the information needs, sources, purpose and perceived qualities of information between managers working in manufacturing sector and those working in the services sector.

2.3. RESEARCH QUESTIONS

The research questions being addressed in the study are:

1. What is the type of technology is 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 self 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 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.

H1: 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.

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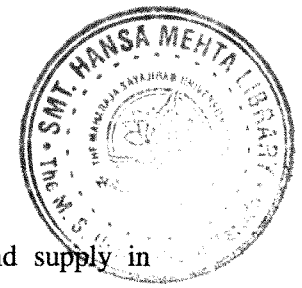

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