

Variable Affecting the Information Needs and Seeking Behavior of Educational Administrators: A Review

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The study aims at reviewing the research studies conducted to find out the information needs and seeking behavior of educational administrators, and other stakeholders of education enterprise. The purpose of this review is to identify the important variables affecting the information needs and seeking behavior of educational administrators.

An effort is also made to review the status of such research studies in Pakistan. The paper is based on comprehensive review of available literature. For the literature search, valid sources of published and unpublished information were consulted (i.e., books, journal articles, reports, conference/workshop proceedings, theses, etc.). Recommendations and conclusions are also drawn in the light of reviewed literature.

The study reveals that many variables are affecting the information needs and seeking behavior of educational administrators: such as their work context, administrative responsibilities and work experience along with source preferences and use of information. It was also found that no comprehensive research study was conducted to find out the information needs and seeking behavior of educational stakeholders working at the administrative positions in Pakistan (i.e., deans, registrars, heads of departments in universities, school and college principals etc.).

Keywords: Research on information needs, Research on information seeking behavior, Educational administrators, Pakistan.

Background

In the contemporary times, information plays a key role in every aspect of life. People need information to work properly in their respective domains. Keeping the important role of relevant, valid and updated information in view, organizations are now more concerned about the successful planning and design of computer-based information systems.

The concern begins with the determination of critical information needs for top management and other members, and extends to the methods and techniques that will transform these information needs into information systems (Auster & Choo, 1996).

Some issues such as; a) what constitutes a need for information?; b) what do people think and do at that particular time?; c) how do they feel and how do their feelings affect their research?; d) what problems do they face while seeking information?; and e) do some groups possess common characteristics of seeking information had provoked the need for studying the human information needs and seeking behavior. These issues support information system designers to establish their systems and services according to the information needs of the users (Chowdhury, 2004).

Marchionini (1995) has narrated that information seeking is a natural process of human life. According to the author, information seeking behavior is the purposive seeking for information as a result of a need to satisfy some goal.

Chowdhury (2004) has mentioned that information seeking behavior of users depends on a number of factors. He has elaborated some common points which affect the information seeking behavior of the users: a) the professional and educational level of the user; b) the skill of user to get to information sources; and c) the time which a user has to see information systems.

Several researchers concentrated on the issues of users' information behavior with respect to their different information needs. These studies provoked the need of information models to get a clearer view of their different needs and problems. These models can be classified into two major types i.e., 'human information behavior models' and 'user centered information search models'. Wilson (1999) ascertains that within both information seeking research and information searching research, alternative models address similar issues in related ways and that the models are complementary rather than conflicting.

Extensive studies on users and their information needs have been conducted over the last three decades and various methods have been employed in these studies (Chowdhary, 2004).

Wilson (1997) believes that to study and understand information behavior, it is important to get an overall understanding of the context within which the information need arises. Many researchers emphasize that there is a

relationship between information behavior and task performance (Byström, 1999; Järvelin, & Wilson, 2003; Vakkari, 2001). Chowdhury (2004) has mentioned that information seeking behavior of users depends on a number of factors. He has elaborated some common points, which effects the information seeking behavior of the users: a) the professional and educational level of the user; b) the skill of user to get to information sources; and c) the time that a user has to see information systems. Wilson (1997) provided a general model of information seeking behavior. This general model of “information behavior” includes a number of stages that begin with the context of the information need. The second stage is the activating mechanism i.e., the motive or reason for seeking information. The third stage is of intervening variables that may act as barriers to information seeking and/or processing, such as the personal variables and the characteristics of the source. Information seeking behavior is the active and/or passive search for information. Information processing and use is the next stage, which acts as a mechanism of feedback for the information searcher/user and may give rise to more information needs (See Figure 1).

Keeping this model in view, the researchers have reviewed many research studies conducted in different parts of the world for finding the information needs and seeking behavior of administrators, policy makers and managers in the domain of education. Few studies discussing the information seeking behavior and seeking preferences of managers in general are also discussed.

The Context and Work Tasks

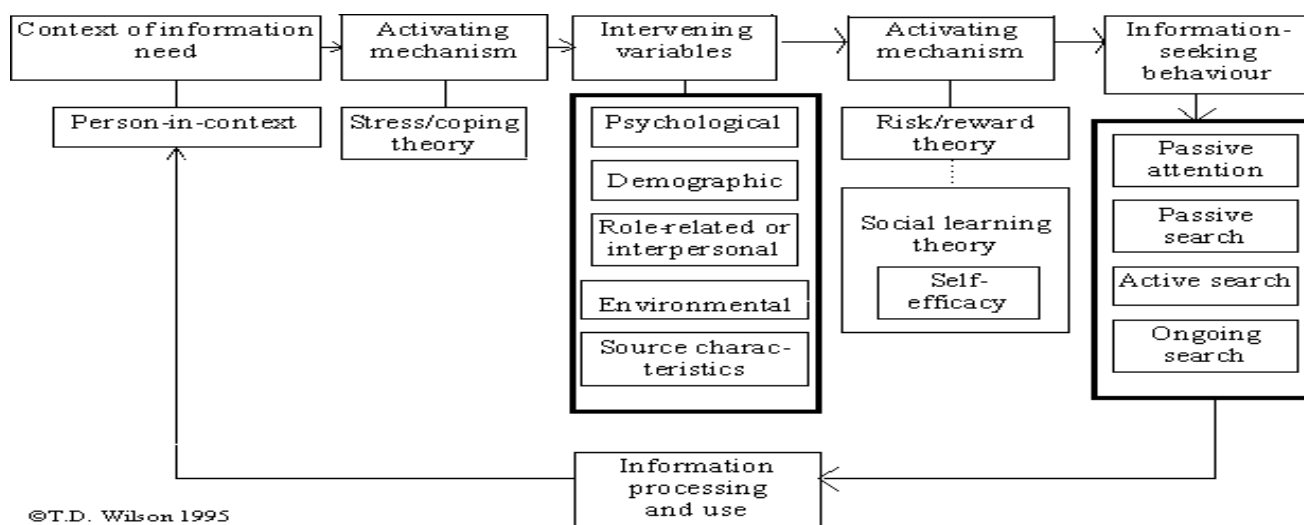
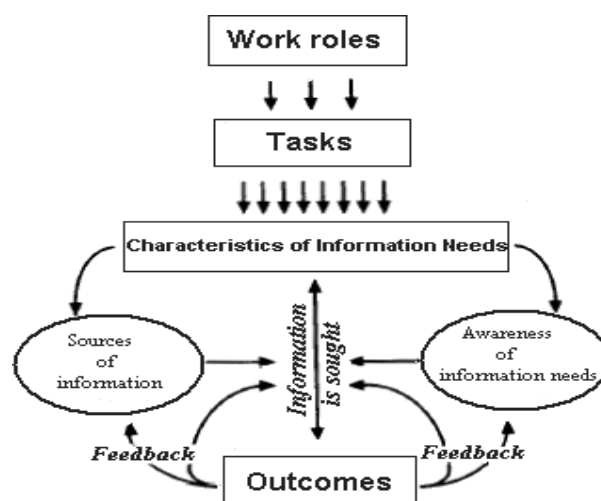
Wilson (1997) maintains that the information need of an individual should be understood in his/her context. The context may be the individual's work environment, the roles and the tasks that the individual has to carry out. Many researchers emphasize that there is a relationship between information behavior and task performance (Byström, 1999; Järvelin, & Wilson, 2003; Leckie, et al.,

1996; Vakkari, 2001). According to Katzer and Fletcher (1992), administrators' or managers' information behavior reflects a relationship with their work settings and information environment that highlights a need to understand problem situations as an ancestor to understand how they seek and use information.

Leckie, et al. (1996), for example, based their model on the assumption that information seeking is related to the performance of a particular role and its associated tasks. As part of the communication and information seeking process, professional groups adopt, enact, and expect various roles.

The Figure 2 shows that particular roles and their related task results in information needs, which are, in turn, affected by factors, such as sources available, intended use of sources, individual characteristics of the user, and environment surrounding the user.

Figure 2: Leckie's Model



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Figure 1: A Revised General Model of Information Behavior by Wilson (1997)

In order for tasks to be completed certain information needs must be met. According to Bystrom and Jarvelin (1995), a number of studies that relate tasks to information needs have been carried out. These studies have considered the relationship between the complexity of tasks and the resultant information seeking behavior. However it is noted that these studies were focused to look more at whole jobs or projects in totality, rather than on individual's task, and had used questionnaires to be completed after the completion of tasks and not during the task performance.

The study by Bystrom and Jarvelin (1995) was an attempt to redress the paucity of studies on the effects of task complexity at the task level on information behavior. According to Bystrom and Jarvelin, simple tasks are routine information-processing tasks, where the inputs, processes and outcomes can be predetermined, whereas difficult or complex tasks are new and genuine decision tasks, where they cannot be priori determined.

Many researchers have discussed that information needs of educational administrators are different according to the level at which information users are operating (national or sub-national) and the type of decision they take (planning and strategy, management and supervision, operational, and recipients of programs etc.), macro level (policy, planning, strategy development), intermediate level (management and control), and micro level (operations and recipients of programs).

Educational policy makers and planners need information for an accurate analysis of the current situation and past trends to: a) define and quantify possible future developments; b) set development objectives; and c) define policies to be pursued to achieve these objectives. Program managers require information for planning, monitoring and evaluation of activities, resource allocation, and management of human resources.

The project/course manager requires more detailed information on inputs, process, and outputs of programs, detailed budgetary information, impact of the programs etc. Educators would also require information on educational and pedagogical issues. Their work is open-ended because they have to tackle with a wide range of issues, but also in the sense that many of the problems have no apparent closure in the short-term, their resolution having to unfold over time (Auster & Choo, 1996; Lucey, 1995; UNESCO, 2006).

Information Needs and Activating Mechanism

Information needs by themselves do not lead to information seeking behavior. There is usually something that motivates an individual to seek the needed information (Wilson, 1997). According to Wilson (1994), the knowledge gap theories by Belkin and Dervin may be used to describe the motivating factor that compels individuals to actually go out and seek information.

An educational administrator may need information to back a course of action that was undertaken. Intervening variable to information seeking can vary from inertia on the part of the individual to organizational barriers to the free flow and use of information.

Information needs can be categorized and individuals may experience a need for new information to

clarification and confirmation of information held. This categorization may be important in establishing the motivation for information seeking on the part of the individual.

According to Leckie et al. (1996), information need is not constant and can be influenced by a number of variables. Such as age, experience, education and geographic location, etc.; the context within which the information need arises, the frequency, importance and the complexity of the tasks are also important factors. All of these factors can influence the formulation of information need.

The educational administrators usually need information for performing the routine tasks, planning, and budgeting, etc. (de-Alwis & Higgins, 2001; Lucey, 1995). Types of information-considered important includes business news followed by political, social, and supplier trends, regulatory information, use of information technology, demographic trends, and new management methods.

Sources given a very high preference rating are personal contacts for competitor trends and the use of government publications for obtaining regulatory information. (de-Alwis & Higgins, 2001; Auster & Choo, 1994; Grosser, 1991; Katzer & Fletcher, 1992).

According to a research conducted by McCracken and Gillespie (n.d.), local educational administrators generally perceived little need for information for use in problem resolution. Most decision-making was in the absence of an information search. Respondents desired experienced people as their major information source and the major criteria for utilization of print materials were the familiarity or degree of experience of the administrators with the materials, and the quality of contents.

At a planning forum, few thoughtful policymakers and educational administrators stressed on the need of research on issues related to the inputs and outcomes of education, the structure and process of education, the core of teaching and learning, and the broader context in which education operates. They believed that in order to be effective, research on governance, finance, policymaking, and management must address the issues and questions that decision makers really care about (US, Department of Education, n.d.).

Intervening Variables

According to Wilson (1997), whatever the situation in which a person perceives a need for information, engaging in information seeking behavior is not necessary consequence. There may be a number of reasons for this, including personal characteristics, social/interpersonal variables and environmental variables. An identification of these variables is possible and is desired so that they may be taken into consideration in the design and provision of information services. The possible intervening variables could be the characteristics of the source itself, such as information contained in a source may be out dated; it may not be quite in the form that the user requires it, and it is therefore important to find out the appropriate format in which it will be useful. Similarly, an individual's educational level may not be adequate for understanding statistical data (Leckie et al, 1996).

Non-availability of needed information is another intervening variable, which may affect the efficiency of educational administrators. The needed information could be related to the inputs and outcomes of education, the structure and process of education, the core of teaching and learning, and the broader context in which education operates (US, Department of Education, n.d.).

According to McCracken and Gillespie (n.d.), the research findings often fail to reach key decision makers either in the proper form or in time to assist in decision-making. Also little is known about major problems for which educational administrators need information, methods of seeking information used by these decision makers, information normally used, or the criteria employed in selecting information.

Information Seeking Behavior

Information seeking behavior is manifested in the sources and channels that users utilize in the process of carrying out and completing their tasks. Wilson (1997) has identified modes of information seeking other than the one where the user actively carries out information seeking. The modes include passive search, passive attention and on-going research. Of specific interest for this research is the identification of information seeking and acquisition behaviors adopted by educational administrators. Leckie, et al (1996) have pointed out the factors affecting information seeking. According to them, professionals use a variety of information sources, which can be characterized by the types of channels – formal and informal; internal or external; oral or written; and personal.

G. de-Alwis, Majid and Chaudhry (2006) have found in a descriptive study that there has been a transformation in managers' information seeking behavior over the decades. Based on an extensive literature review, the authors analyzed the factors which have influenced managers' choice of source preferences.

Their review not only reveals four key dimensions used to study source preferences, i.e. contextual, situational, personal/socio-cultural, and informational but also identifies common factors under each. The factors given main weight in the literature are accessibility, quality, and richness of the information, as well as individual and institutional characteristics.

Choo (n.d.) has found that chief executives prefer sources that they perceive to be reliable, high quality and that provide relevant information. Among the wide range of sources that they use, internal and personal sources appear to be more important than external and impersonal sources. Few chief executives personally use the company library and online database services. S. M. de-Alwis and Higgins (2001) have reported the results of a study, which indicate that the types of information considered very important for decision making included competitor trends followed by regional economic trends.

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.

Sources given a very high preference rating were personal contact for competitor trends and the use of government publications for obtaining regulatory information. Respondents also preferred the use of government publications for local economic information and the use of newspapers for political trends and business news. However, the company library was perceived as a storage facility rather than a dynamic information resource.

Local libraries were also used for regional and international economic information. Radio and television were used to obtain regional and local economic information, but were rated low in accessibility. Very high preference was given to personal contacts as a source of information. Many researchers believe that administrators' source preferences have not changed over the years and they primarily rely on people they trust and other informal social networks (Auster & Choo, 1994; de-Alwis & Higgins, 2001; Grosser, 1991).

Wilson (1997) believes that the use and impact of other information sources on information seeking behavior should also be explored, such as mass media and use of computer mediated technologies etc.

These new forms of media have affected the information seeking behavior of the educational administrators. For example, George and Huber (1990) believe that the use of computer-assisted communication technologies enable top administrators to obtain local information quickly and accurately, and reduce ignorance and help them to make decisions that they, otherwise, may have been unwilling to make.

The opportunity to obtain contextual clarification with electronic mail and other computer-assisted communication technologies would amplify this tendency. Conversely, electronic bulletin boards enable lower and middle-level managers to stay better informed about the organization's overall situation and about the nature of the organization's current problems, policies, and priorities and, consequently, permit decisions made by these managers to be more globally optimal, rather than more parochial and suboptimal. Further, computer-assisted communication technologies allow lower-level units to clarify information in a timelier manner.

Information Use

According to Wilson (1997), studies into how information is used have been ignored, yet these studies can help forecast information needs and the design of a user centered information system. However, an attempt is made by Ellis (1989) to understand the information seeking behavior of users and then linking it to how an information system can be designed for them.

Guan, Nunez and Welsh (2002) have identified three of the ways in which information is used strategically by both internal and external stakeholders in universities. The ways are as under:

1. By administrators and policy makers and faculties to:
 - a) assist in resource management and strategic planning;
 - b) assist in the recruitment and retention of students.
2. By external oversight agencies to:
 - a) assess the performance of the institutions;
 - b) assess programs offered on a variety of indicators.

3. By students requiring subject specific information on:
 - a) lecture notes, tutorial and case study briefs; b) examination timetables; and c) results of assessments.

Research on Information Needs and Seeking Behavior of Administrators and Other Stakeholders of Education Enterprise: A Pakistani Perspective

Few old studies were found related to the information needs and/or seeking behavior of university teachers in Pakistan. Although some of the respondents could also be working on administrative positions; however, these studies only focused on their academic information needs. For example, Parveen, (1976) found that social science teachers and research staff (at University of the Punjab, Lahore) used both formal and informal sources for seeking the information, such as abstracts, books, reviews, conferences, proceedings and library catalogues. Fazlul-Haq (1976) explored that the teachers were mainly using current journals, latest books, news-magazines, research reports and conference proceedings.

On the other hand, the science teachers were mostly using textbooks and current journals (Chaudhary, 1977). The teachers of humanities (University of the Punjab, Lahore) were less interested in informal sources of information (Anjum, 1978). A study of the information needs of the teachers of the religious schools of Lahore was also conducted by Aseer (1982).

The above reviewed studies were conducted during 1970s and 80s; however, few other studies were also conducted in recent years on assessing the information needs and seeking behavior of teachers. For example, Shahzad (2007) explored that the teachers at Government College University (GCU, Lahore) were using both formal and informal information sources such as library resources especially reference resources, electronic journals, online databases and conversation with experts (Shahzad, 2007). Tahira (2008) mentioned that the science and technology teachers' (University of the Punjab, Lahore) information needs and seeking behavior were associated with their professional obligations.

Direct access to e-resources had moderately affected their choice of information sources and information seeking behavior. The factors hindering the real use of online resources and services were lack of competencies of library staff, less motivation of providing services to respondents, and inadequate automation of library operations. Moreover, less use of sophisticated technologies, lack of formal orientation, awareness and understanding regarding the searching and use of subscribed sources by respondents and library professionals were also among major barriers. Bhatti (2009) identified that university lecturers made great use of books, while assistant, associate, and full professors also used periodicals, indexes, abstracts, encyclopedias and other reference materials.

Use of the Internet was very high among all categories of faculty members. More than half of respondents mentioned their colleagues as their primary information source. Other informal sources of information used were subject specialists, seminars, conferences and workshops. Only two research studies could be identified concerning the information needs and seeking behavior of school and

college teachers and administrators at Bahawalpur. One of those studies revealed that school teachers and administrators used to converse with co-workers or other experts at their institutes for seeking needed information.

They used to search their personal collection in case of urgent need of information and got required information sources from colleagues or through purchase. Books and monographs were among the most used formal information sources. Similarly face to face discussion with colleagues was mostly used by the respondents as an informal source of information.

They found training workshops, educational articles and professional news directly useful for their information needs. ICT had completely changed the information seeking habits of the respondents and surprisingly electronic format was among the most preferred format. TV and Radio were among the most used Information and Communication Technologies. Google and search.com were among the most used information search engines.

School libraries were fulfilling respondents' information needs to some extent (Iqbal, 2008). The other study showed that the college teachers and administrators mostly sought information for lecture preparation, improvement of their personal competencies and current awareness. They mostly used to converse with co-workers or experts at their institutions and frequently acquired information resources from their institutional libraries.

They also used their personal collection or institutional libraries when they had urgent need of some information. Books and monographs were mostly used for seeking information. They frequently used to discuss face-to-face with their colleagues and friends as an informal source of information. The purpose of their library visit was to borrow and return books and to read journals and newspapers. They did not find different parts of research journals directly useful for their information needs. They preferred English language for reading material, while print was the most preferred format.

Major obstacle which they faced while seeking information was lack of computer hardware and software. Majority of them used atmospheric communication technologies (Radio/TV), telephonic communication and Internet search engines for information seeking. Google was the most used search engine by them. Institutional libraries were fulfilling their information needs to some extent and they suggested that college libraries should be equipped with computers, CDs, Internet, and latest research journals. Moreover, workshops and seminars should also be arranged for them (Khan, 2008; Khan & Shafique, 2011). Both the studies highlighted the problem of scattered information and non-availability of a uniform source/system of educational information.

Conclusions

Administrators or managers have always managed information by some method for effective decision-making. According to Massie (1992), in the past, each operational department (finance, marketing, production, and personnel) maintained separate information system to satisfy its particular needs. According to the author, the technology mediated information systems serve as an interface between the complicated computer hardware and

the non-technical manager who needs the information contained in the computer.

It is a fact that the successful operation of an educational enterprise requires competent and well-informed administrators. Review of the above literature highlights that the information needs and seeking behavior of educational administrators are different according to the level at which information users are operating and the type of decision they take (planning and strategy, management and supervision, operational, and recipients of programs etc.), macro level (policy, planning, strategy development), intermediate level (management and control), and micro level (operations and recipients of programs).

Educational policy makers and planners need information for an accurate analysis of the current situation and past trends to: a) define and quantify possible future developments; b) set development objectives; and c) define policies to be pursued to achieve these objectives. In the developing world, the role of information in decision-making, administration and policy formulation or in national and educational development is not fully appreciated and it therefore plays a minor role in the general flow of communication.

In this perspective, it is recommended that the researchers in the field of library and information science and education should focus on finding information needs and seeking behavior of school, college, and university administrators in Pakistan. These administrators may range from micro level administrators such as school/college principals, vice principals, department chairs/heads/coordinators; middle level administrators such as deans/registrars/vice chancellors, EDOs, DEOs, Education secretaries etc; and top level administrators such as education ministers at provincial and federal level and so on.

The researchers should discover the administrative task for which the administrators usually need information. Furthermore, how the retrieved information is consumed and preserve can also be important to explore.

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