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Psychology of Information-Seeking: Predicting Unpredictable

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Abstract

It has been established and realized that human information-seeking behaviour is uncertain and unpredictable. Background variables responsible for such behaviour are not only many but also different with different individual, ever changing with social context and situations. Studies in information seeking-behaviour have failed in their objectives. Each study is in isolation to each other with out any significant contributions to develop tailor made systems to meet information needs of any community/group/ individual. Therefore, not to talk of common applicability of findings of these studies, their own results would fluctuate within short time. The present study is an attempt to review some of the significant studies in information-seeking behaviours and suggest a shift from user-centred approach to information system where information-seeking behaviours could be conditioned and controlled to a certain extent, thereby bringing information resources and their users together more conveniently and harmoniously.

Introduction

Information seeking behaviour includes how users look for information, how they make use of the resources, what are their preferences and choices, how they interact with the barriers of information communication and information systems in use, how they perceive their need and formulate search strategies to access information etc. On these areas, enormous literature has been generated, and the growth is still continuing. The difference is in change of information seeking environment.

It is now the electronic environment, which is predominant. The findings of earlier studies are being replicated frequently. Different models developed earlier have least general applicability today. The purpose of these studies has been to customize information services to selected groups of clientele, after identifying their needs and determining behaviours. But it has been observed that the findings of these studies have hardly been implemented with a few exceptions, like INFROSS study, thereby most of the studies conducted have not been able to achieve their objectives of improving information services. As such these studies have been limited to have only research value without practical utilities. For example findings like that GOOGLE search engine is more popular as compared to other search engines and similarly one type of literature is the preference of one group, however, other group may have different preferences and choices. Some studies revealed that in humanities there is least use of bibliographical tools. They prefer monographs to periodicals literature; they use older books more; Social scientists use periodicals more; make less use of

foreign languages. What implications these findings have on existing services being offered? What follow up actions have been taken up in view of the results of such studies? Such questions need due consideration at implementation level, failing which such studies have only research value without any significant impact on library and information services.

Varied Information Behaviour

All individual don't possess similar ways of looking at things. Same class of people don't have same behaviour pattern. Not all users have same background, personal skill, professional abilities, interests etc. All individuals belonging to similar group having similar roles don't behave alike. As needs of individuals are different and unique, therefore, their information seeking behaviour is also bound to be different and unique. Every individual has his own perception and cognitive style. Mick, C K et al. (1980), Mick, C K (1980) identified three human factors that influence information seeking- *Cognitive, individual experience and environmental/situation*. Some of the important factors that influence information seeking behaviour are briefly discussed below:

Environmental Factor

Orten et al. (2002) summarised that previous experience of information rich environment, does have bearing on member's ability to not only cope, but to thrive in an environment where a wide range of issues must be understood and in a degree of depth. Every user has a different background of information environment which conditions and influence his information behaviour. Kuhlthau and Tama (2001) confirmed that affective experience is an important aspect of information seeking behaviour which changes significantly in the process of constructing new knowledge. Every user accumulates his or her experience working in different environments. Experience of working with the system and services equally affect upon the behaviour of users and results in the improvement of searching skill. It has been observed that students join University with their respective information environment and experience which they had in their earlier institutions. Therefore, their information seeking behaviours are bound to be different.

Types of Information

Information need get generated as per function being performed and there are number of functions an individual has to perform at different point of time in addition to his prescribed role which he does every day. Various types of needs have been identified like need to keep up-to-date in the subject (current awareness), retrospective (to find out past work), feedback etc. Orr (1970) had identified about 23 types of information needs, whereas Whittaker (1993) reduced these needs into five types only - *regular, general, quick reference, relating to personal problem, personal development and research*. Gorman (1995) has identified different five types of information needs:

- Unrecognised: not aware of information or knowledge
- Recognised: aware that information is needed may or may not be pursued
- Pursued: information seeking occurs, may or may not be pursued

- Satisfied: information seeking succeeds.

In view of the various types of information needs enumerated above, it may be summed up that information behaviour differs as per needs being pursued. If the nature of information is fact finding only (quick reference query), user may skip over many steps involved in searching. Whereas in research oriented information, one has to go through various stages. The purpose of highlighting of different types of information needs is to support the argument that information behaviour is bound to differ while meeting these varied needs.

Types of users

As there are different types of information needs similarly there are different types of users too which influence information seeking behaviour. Pomfrett (1999 a, b) divided users into: *repeat* and *non-repeat* group.

Repeat users

These users were found to cluster into following five sub-groups:

Enthusiastic users: Used the services frequently, viewed full text. These were mostly social scientists.

Vanilla users: They have non-descript use pattern. Used moderate number of journals with moderate frequency, viewed full text.

Unfulfilled users: Accessed one or two journals, used the system infrequently and only retrieved full text in 15% of search session. They check one or two journals only and get contented.

Gapfillers: This group only accessed a few journals but did so frequently and viewed full text. Science staff and students predominated this type.

Demand specific users: Used small number of journals infrequently but requested full text indicating that they had bibliographic information. Typically these users were in sciences and social sciences.

Non-repeat users

Non-repeat users were found to cluster into following three groups:

Tourist: They used the journal out of curiosity.

Lost users: This group used the service like enthusiastic user in the first month but did not return subsequently. They might be having short term interest.

Exploratory users: This group was infrequent users who seldom accessed full text.

The author concludes that a variety of factors influence use, and the patterns exhibited at different times and for different purposes. In order to understand user behaviour, it is important to think multi-dimensionally about them as individuals, Pomfrett, (1999,a)

Eason et al. (2000) identified different user groups. Retaining the above classification, they added category of '*focused regular*', '*specialised occasion*', '*restricted*' and '*searchers*'

Earlier information seeking environment is fast changing, it is becoming more dynamic with the change of electronic environment. Earlier, choices of material used to be limited whereas in new changing electronic environment, choices are massive. The "adage" the customer is king becomes transformed into "the promiscuous customer is king", Nicholas et al. (2004). If today's customers are promiscuous in nature, their information seeking behaviors become more complex and unpredictable.

He has more or less child like psychology, flicking from one source to another and not concentrating on any of them.

Other dependent factors

In addition to above factors, there are many other dependant factors that affect information-seeking behaviour. Parsley (1981) identified following such factors:

- The range of information available.
- Use to which information will be put.
- The background, motivation, professional orientation.

Many more dependant factors may be identified.

Human nature

There are certain traits and qualities in individual human being that are evident in his behavior and expression. Some are introvert; some extrovert, and some may fall between the two. On the basis of unique characteristics of every individual, he becomes different from others having different interests and preferences and many other attributes. Obviously, these different attributes/nature lead to different behaviour pattern. Toliber and Hangford (1981) identified user behavior as:

- Users don't know what they want
- Users keep changing their mind
- Users want everything yesterday
- User react emotionally and illogically
- User resists change.

Carol Tenopir (1996) while analyzing end-user searching trends of information during the last 25 years observed that approach in information searching had been static. He has given the following reasons:

- Not many end users knew what online searching was;
- Not many end users had the equipment to go online;
- Not many end users were willing to learn how to search;
- And not many end-users were willing to pay for online information.

This is the behaviour of users in present electronic environment

Chandel and Saraf (2002) observed following attributes in the user behaviours:

- User is invariably impatient
- User is sometimes casual
- Most of the users lack searching skills
- User may not know his/her resources and use
- Quite often non-interactive, rarely gives feedback
- May prefer to miss information, at times if not readily and easily available
- Get satisfied with alternative/substitute sources of information
- Inhibition to learn new technology
- Doesn't like to be educated.

The background of such behavioural acts is result of many external and internal characteristics of users conditioning their behaviours.

Models of Information Seeking Behavior

Many models of information seeking behaviors have been developed. But their general applicability can not be ensured. Even Wilson's model (1981,1996, 1999) can not be considered as general one applicable to every category of users, Nied (2003). Other models which need mention are: Kuhlthau (1991, 1994), Dervin (1983) Ellis (1989,1993, Lackie et al. (1996), Westbrook (1993), Peter Brophy (2000), Nied (2003) and many others. Their research works are, no doubt, significant contributions as new knowledge and important to the existing literature. However, these models could be tested and evaluated by involving users as to which extent their approach commensurate with the processes and strategies laid down in these models. Let us take the behaviour patterns of different drivers in a traffic jam. Every one reacts to the similar situation differently, some violates traffic rules when they loose their patience and many may attempt to overtake knowingly well that their doing so, may further complicate the situation. Quite contrary to such behaviours, some may keep patience, some may take unexpected decision by taking U turn to try some other road to reach their destination. Similar situation takes place when users are searching information in a similar situation.

There are enough evidences that the actual information seeking strategies used by individual with different cognitive styles differ significantly, wood et al. (1999). Therefore, all users don't fit in these cognitive models. Belkin (1984) had realized that it is easier to build cognitive and affective aspects of user and user's situation. He suggested that user's problem and the position of user in the problem be included in the model. Models solely based upon cognitive needs and approach to information can not yield desired results. The author of this paper had proposed a generalized methodological model combining cognitive and system approach, Chandel and Saraf (2002). The attempt was a major departure from predicting aspects of information behaviour and studying the behaviour of various groups. With long experience of working with students' community in the university setup, it was observed that users could be easily conditioned to the system by way of user education and introducing them to the local system in order to make them independent and comfortable in their information seeking process. Nevertheless, the logical stages of information foraging were maintained which included cognitive approach too.

It was empirically proved that user behaviour was easily controllable under a particular social and cultural milieu. They adapt and adjust to the system quite comfortably. This observation can be well supported by users' familiarity with classification and cataloguing systems being used in libraries.

Conclusion

The theme of this conference is the answer to all those problems associated with the user and his information. Kulthau (1991) who has developed model of information seeking states that the education of users of information system is becoming more important with each technological advance.... and suggests that the model of information seeking may be incorporated into user education programme to enable

people to become aware of their own evolving process and understand which affect information use. Tuominen (1997) gives also similar view stating that user-centered discourse does not necessarily liberate the user from constraints of system, and for both librarians and users, there is no easy way out of the web. There is a need to do research on not on topics like information needs and information seeking behaviours but on the applicability of these models. All these attempts have been made to predict unpredictable. There are 'emergent phenomena' which may arise any time in the minds of the users, the crucial point is that each emergent phenomena is unique entity that can be counterintuitive, hence difficult to predict, Eric Bonabeau (2002). Quite similar is the behaviour of information users. Solution lies to educate our users and make them information and library literate, familiarise them with the resources and services available to them. Conditioning their behaviour with the local system may yield more profitable results rather concentrating more on users to fit in cognitive based information seeking model. According to Association of College & Research Libraries, user should be most comfortable, confident and also independent in finding desired information which is not so at present, Kuh, and Gonyea (2003). User must develop ability to find, retrieve, analyse and use information. 'Information Literacy' has been recognized as one of the essential code of professional ethics, Koehler, Wallance (2003)

which must be given due importance. Are our user adequately information literate? If not, what initiatives are to be taken by the professionals? Time is to concentrate more on to bridge the gap between the information users and information system(s) and overcome the intervening barriers obstructing them.

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