Information plays an important role in the human history, not in past only but in present era also. It relates to the ideas, observation, fundamental knowledge, experience etc. Information is a production of human mind. One has to think, observe, and experience something when he comes across to such conclusion he share his experiences with others, through this way information takes birth. Through various channels it flows and persons in need of information collect and use it. It is an important resource which essential for survival of today’s competitive world and an important ingredient for the socio-economic and cultural development of any nation or individual. According to Kemp (1976) “information is considered as the fifth need of man ranking after air water food and shelter”. Information collection transfers and use are all pervasive and universal activities in all walks of human life. Information founds in various form like text, statistical data, pictures, symbols etc.

The word information is derived from the verb ‘to inform’. The verb ‘to inform’ implies that a message of some sort has been issued received and understood. The word information is used in English language to identify may different concepts. It can be describe as facts or organised data, knowledge, intelligence which can be used, communicated or transferred it has many basic qualities: easy availability, meaningful, accuracy etc. according to Jain (2009) “information is the representation of data (or raw material) to a receiver; it is the principle resource of a modern organization. Information is a data in usable form, processed in some way; it is data plus interpretation”.

3.1 Information: Source, commodity:

Information plays a major role in the development of any country. Today the concept of economically developed and undeveloped is outdated. Information age is divided into two parts. 1st Information based rich society and 2nd Information based poor society. It is a natural resource and power. There is a need of quick, accurate and proper information at least cost for every developmental activity of the society or an individual. Patterson (1995) thinks that “communication of knowledge should be in
natural form, text form or through the communication channels, is also information”. Consideration of information as a resource is its economics.

Some of the experts deny assuming information as a natural resource. So it is difficult to embed it in the terminology of economics, even though information is considered as a resource at national and international level. Policies, legal matters, reservoir, transformation, service these aspects underscore the importance of information as a resource. Uncountable information emerges in natural form, this row information processed into the accurate information. The processed information is rather acquainted as a commodity than a resource.

3.2 Properties of information:

i. Information is a property of universe like matter and energy;

ii. Any system, which exhibits organization, contains information;

iii. It has a particular meaning;

iv. All other resources are depended upon information and knowledge this is the unique feature of information;

v. Information can’t reduce or finish due to its heavy use.

vi. Information is alive, it can create only in the human mind- what he observes, experience remembers and retrieve;

vii. Information is compressible: It can be concentrated integrated summarized, miniature for easier handling.

viii. Information can replace into the capital, labor or physical materials

ix. Information in diffusive: It tends to leak and the more it leaks the more we have.

x. Information is shareable: To quote the communications expert, colon sherry information cannot bring about exchange transactions, but only shared transaction.

xi. Information is not consumed in its use.

xii. Scientifically it is universal, particularly in the natural sciences like physical, chemical and biological sciences.

It is that information exists in a variety of forms and may be transmitted from one system to another and it undergoes a series of transformations.

The discussion addressed importance of information in the development of a society or an individual and how people interact with the information. This
discussion also suggests that people need information for several souses and they seek it at every stage of their activity so it is much important to understand the term ‘information need’, its nature, important aspect, affecting factors models, and comments of several experts.

3.3 Information need:

Generally people talk about information need when they recognize a gap in their state of knowledge and wish to resolve that anomaly an anomalous state of knowledge. Information needs arise out of a desire to meet one or other of three basic needs of a human being. Those three needs are as follows;

1. Physiological needs;
2. Psychological needs and;
3. Cognitive needs.

Need for food, shelter, water are included in the Physiological needs, whereas need for domination and security are come under the Psychological need. Lastly the need to plan, learn the various skills are known as the Cognitive needs. Today’s society is living in such a world which is well known as an information age. In this age the lack of information could certainly have serious consequences for every individual.

3.3.1 Information need: Concept:

Everyone needs information for a specific purpose. When one decided to travel, he needs information about routes, transport facilities their timing and other concern services. He may gather this information from his friend or from a travel agent or agency as well. He may also give a visit to the library or information center and collect this information from some documents like tourist guides, railway time tables etc.

Information plays a vital role in economic, political and social change. Similarly a research and development projects can be completed successfully if the required information will get when it is needed. Without proper and complete information and in mean time no one can take decision that what to do and how to do it. In other words it can be say that no progress is possible without the support of information.
3.3.2 Definitional analysis:

The concept of ‘information need’ has multi-dimensional meaning and much difficult to define, isolate and measure. Before define the term ‘information need’ it is necessary to clarify the word ‘need’. Without to be aware with the term need, it is not much easier to describe the term information need.

According to the ‘Webster’s new world college dictionary (2006), the term ‘need’ is as similar as to,

i. requirement
ii. desire
iii. demand
iv. want
v. necessity

These words suggest the meaning of the term ‘need’. In brief, need means something is required which may available or not. Many times one is in need but he doesn’t ‘want’, some time he need something but there is no ‘necessity’ to have it. It can be say that ‘desire’ means will. Will come when one need something and he shows his willingness to get it and he will be satisfy when he get that desired thing. About ‘demand’ it can be say that demands are far over than need. As per the human nature he has hyper demands and generally it can’t be compare with the basic needs. Demands haven’t any end but needs come with a particular purpose and it finishes with its satisfaction.

As per the views of David Nicholas (2000) information wants and demands are as follows;

i. Information wants:

Information wants is a must have for every individual. Today’s society is not perfect to live for the people. So there is no one to one correspondence between need and want. In a subjective domain there is a realization of personality, time, and resources. To avail information, time effort and money is to be expanded. Job satisfaction is of paramount importance. If one interests in ones job one will do it in a better way will keep oneself update with information.
We are enveloped in a web of information; the sources such as internet, laptops, etc. are beneficial as well as obstacles, as they bury us with information. Questionnaire studies of need eventually become want studies.

ii. Information demand:

The very name ‘information demand’ implies that it is a demand, a kind of request. People do not know their actual information demand they either with oral information demands. Use of web, search for book or information but many a times it turns out to be disillusionment.

In the days of traditional library expectations of information was low. Traditional libraries have had their own limitations. Viz. tight time frame computer the magic black box, however have raised the expectations of information remarkably. Many a times there is a mismatch between demand and need. What is demanded is not actually needed and vice versa seeking relevant information must be stressed. Web logs play a vital role and bridge the gap between need and demand.

Some information scientist, psychologists and library science experts have made attempt to define the term ‘information need’ as follows;

1. Maurice B. Line (1974) has defined information need as, “what an individual ought to have for this work his research his edification, his recreation etc”.

2. According to Ching-Chih Chen and Peter Hernon (1982) information need is as, “an information need is more than a question asked of an information provider. It occurs whenever people find themselves in situations that require some form of knowledge for resolution”.

These definitions are concentrating on the need of people who are engage in the specific studies. It also commented on the specific requirements of the people. It shows that people need information and they search it through several modes.

3.3.3 Factors affecting information needs:

Generally following factors affect the information needs of an individual or a group,

1. Work- in which work a person or a group is involved.
2. Type of work- whether the work is basic or applied.
3. Discipline- within which discipline he / they is/ are working.
For example, the information needs of researchers in science and technology are undoubtedly more urgent than the researchers in social sciences, humanities or other disciplines, because science and technology is ever growing than other disciplines. So the scientists need to update their knowledge constantly to catch up the latest developments.

3.3.4 Dormant need:

Generally people are not aware that they are in need. They also don’t know that they have an information gap. Many times they are not aware that there is information out of their knowledge and it can help them to fill up the information gap that they are facing.

They don’t know that new information has rendered obsolete what they know, and as a result given rise to another information need. It is only when exposed to the relevant information that is recognized. This might be called dormant or unrecognized need (David Nicholas, 2000).

3.3.5 Types of information need:

According to Tague (1976), there are four types of information need, most of which are self explanatory.

1- Social or pragmatic information needs:
   Information required for fulfillment of day-to-day life needs.

2- Recreation information needs:
   One, who is interested in cultural, recreational activities need information to fulfill it.

3- Professional information needs:
   Person who is involved in the business or any profession need information to take decision or any action.

4- Educational information needs:
   During the academic activities academicians or related people need information.

Another Categorization can be the following,

As per Maslow’s (1970) opinion there are some other types of human needs, they are;

i. Self Actualizing Needs: education, leisure activities, ethical values, esteem needs, multicultural awareness, emotional awareness, society and family oriented needs, sex education, etc.
ii. Love and Belonging Needs: human being is by birth an emotional animal. He/she loves many people, animals, birds several things etc. naturally he collect information about those things.

iii. Safety concern needs: crime, violence, war, traffic rules emergency procedures, basic literacy, etc.

iv. Physiological Needs: Personal hygiene, nutrition, general health issues, addictions, prevention from bad habits etc.

At present the term ‘need’ is not to be cleared by anybody, said Brittain (1970). As per his views an information need may refer to the;

i. Need expressed by the user, or
ii. Need that user cannot express; or
iii. Present or immediate need; or
iv. Future or differed or potential need.

3.3.6 Reasons behind creation of information needs:

There are several reasons, for which the people seek information,

a. Education and research oriented needs:

i. Students need information according to the prescribed syllabuses to accomplish the academic studies, projects assignments more specifically to get success in examinations.

ii. Teachers need information for teaching as well as imparting education to the students.

iii. Researchers or scientists need information regarding their subject area they also interested to know the current developments in his concern discipline on a continuing basis.

There is no doubt that the researchers are the biggest consumers of information. While the information needs of all types of users are important in varying degrees, the researcher’s information needs are slight unique than common man, which distinguish them from other user group. Most of the information systems and services are concentrates their focus to develop such mechanism to satisfy these requirements. Outputs of research constitute a major part of information handled by the library and information services. Thus the credit goes to the researcher to be the unique consumer (i.e. users) as well as producer (generator and creator) of information.
A researcher needs information for three purposes –

i. To abreast with the developments in his area of interest.
ii. To get acquainted with the state of the art.
iii. To gather specific pieces of data information needed at different stages of his work.

b. Profession oriented needs:

Professionals like medical and legal practitioners need information to pursue their vocations. The physicians cannot afford to ignore the new developments in the medical sciences. Their ignorance would be fatal to the patients.

Similarly, legal practitioners must keep in touch with the new Acts, amendments etc. and judicial verdicts to ensure fair justice. Judge needs access to earlier verdicts or case precedents before pronouncing judgments.

Engineers and technologists need information for solving technical snags on the shop floor.

Managers or executives of business and industrial organizations need information to enable them to take appropriate decisions relating to issues having both short- and long-term implications. They need more information for taking decisions involving managerial issues.

c. Government activities:

i. Officers, managers need: Government officials as well as managers need information in decision making.

ii. Legislators need: Lawyers, advocates need information for argument.

3.3.7 Basis of information need:

There are certain basic conditions for the need of information by the user. These conditions may be;

i. A person in need should be aware that whether the need for information is necessary or it is sufficient that the need exists.

ii. A person in need should be aware that whether the presence of desire for information is necessary condition for saying that there exists a need for information.

iii. Eventually, A person in need should be aware that whether the lack of information a necessary or sufficient condition for concluding that the information need exists.
When the purpose for the use of information is present, the need ends. According to Derr (1983) the presence of ‘information purpose’ as a necessary condition of information need has stressed two necessary conditions for information needs as follows;

i. The presence of an information purpose;

ii. The information in question contributes to the achievement of an information purpose.

Thus the requested information by the user is not always needed. They miss the real purpose for the use of information. One is required to see with the judicial eye whether the information in question really contributes to the achievement of an information purpose. It also concludes that for an individual or organisation, value judgment is having purpose for certain items of information.

3.3.8 Kinds of information needs:

Information needs of an individual vary in specific cases for a specific point of time. According to the Dhiman and Yashodarani (2005) there are four kinds of information needs, these are as follows;

i. **Current information need**: Some of the users who need information are interested to keep up-to-date information in their respective field of development; the necessity of current information is determined to make available right information to the right user in right format at the least time period. Importance of this kind of information can be seen in the institutes involved in the research and development activities. Therefore, demand of such kind of information is much required for the users.

ii. **Exhaustive information need**: When a user need complete information on a particular issue or subject area he looks for every aspect of that particular information. It helps user to draw a suitable conclusion for the purpose. Without exhaustive coverage of information resources is done so as to study a total picture of that particular area of activity, the user can become dejected to reach at a suitable conclusion.

iii. **Everyday information need**: For the day-to-day activity people need variety of information. In this kind different type of users need different kind of information at different time period. Some of the users need information on a particular activity every day. This goes on changing from one day to another. So this kind of information is expected reliable, up-to-date and as fast as possible.
iv. **Catching up information need:** This kind is also known as brushing up need. This kind of information need has such characteristics like ‘briefness, preciseness etc. this kind of need expect simple objectively expressed information so that the user can easily catch it. This is an easy approach to information by the user in a specific area of activity, which provides the complete picture of that particular area in a precise form.

3.3.9 **Identification of information need:**

Girija Kumar (1990) has suggested a model for identification of information need. As per his views information need can be indentify by ‘input-process-output model. The basic components of the system are: i). Problem, ii). Problem solving process, and iii). Solution.

For the determination of the information need the problem has to analyze. It is scarcity of the ambiguity about knowledge. Solution results in resolving of the situation by filling the gap in the knowledge.

The model is shown as below:

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**Fig. 3.1. Model of identification of information need**

(Girija Kumar. Defining the concept of information needs. New Delhi: Vikas publishing house, 1990)
3.3.10 Levels of information needs:

There were several studies has been conducted on the psychological aspect of the information seeking behaviour. Levels of information needs are also emphasized in those studies. According to Taylor (1968) there are four levels of information needs,

i. Visceral Needs: those needs which are not expressed;

ii. Conscious needs: an ill-defined area of decision

iii. Formal needs: a concrete term which may express to clear the area of doubt.

iv. Compromised need: a need transformed into what resources and documents can deliver.

3.4 The concept of information behaviour:

According to Satija and Kumar (2006), “information seeking is a human process that requires adaptive and reflective control over the afferent and efferent actions of the information seekers. Information seeking is a dynamic and changeable process despite its formal problem solving attributes”.

Acquaintance with the people’s strategies, anticipations vision, approach and worries accelerates the interpersonal relationships with the other information users. Creating an information gap/vacuum as well as finding out what is stopping progress, is what information seeker is suppose to find out. Information seeking and information retrieval are distinctly two different concepts. Information retrieval does not include persistence, continuous or regular human attention. In the larger information seeking process, Information retrieval may be automated and embedded.

3.4.1 Information behaviour:

The term information seeking behavior is a comprehensive term that includes several activities viz. information seeking, information gathering, searching, information receiving and communication. The user actively undergoes the information seeking process. When a user attempts to obtain the needed information result from the recognition of some need, perceived by the user, this is called Information Seeking Behavior.
The motives and purpose of seeking information, the nature and type of information required, the ways and means of accessing, searching, identifying and acquiring work related information, degree of dependence on sources of information. Information seeking behavior involves gathering and collection of information to solve the problem, which initiates the information need.

3.4.2 Definition of information behavior research:
1. According to Wilson (1999), “information behaviour are those activities a person may engage in when identifying his or her own needs for information, searching for such information in any way and using or transferring that information”.
2. Taylor (1991) defines information seeking behaviour as the product of certain elements of the information use environment. The elements are:
   i. The assumptions formally learned or not, made by a defined set of people concerning the nature of their work.
   ii. The kind and structure of the problems deemed important and typical by the set of people.
   iii. The constraints and opportunities of typical environments with which any group of sub groups of this set of people operates the works.
   iv. The conscious and perhaps unconscious, assumptions made as to what constitutes a solution of better said, of resolution of problems, and what makes information useful and valuable in their contexts.

   As per the definition Taylor believes that the information behaviour of different groups of users is also different.

3.4.3 History of information behavior research:

   Information seeking behaviour of human being is as old as his searching ability. Everyone knows that when he was living in the natural circumstances he was spent maximum time in the search of food. For that he thinks and creates new ideas, according to his previous experiences. He collects information from his soundings and uses it. It was the first and informal as well as unstructured behaviour for information seeking.
As per the contemporary situation, it is much interested to see at his formal, well structured attempts towards the information seeking. In the 1930 University of Chicago awarded first doctoral degree in Library science. Various reputed social science researchers, Douglas waples and Bernard Berelson, showed their skills to this respective subject. Waples published abstracts of results from dozens of studies on public library use. During 1948 to 1959 there were several conferences organized on scientific information. Their major attention was on, how much money has been invested in the scientific research and how many scientists gathered and used information for their research work. There were two major publications has published concern to this matter named by “21-Report Series.” And “Project on Scientific Information Exchange in Psychology (American Psychology Association).

More recently however, some researchers came to feel that “information seeking” suggested only explicit efforts to locate information, and did not include the many other ways people and information interacted. In the 1990s, the term “information behavior” came into wide use to replace “information seeking.” the old Guard objected that the phrase is a non-sequitur – information does not “behave”- but they lost out, and “information behavior” remains the most commonly used today (Marcia Bates, 2010).

During the 1960s in the United States there lot of funds was available for social science research. It motivated researchers to develop large, well designed studies regarding the social aspects of scientific communication and information use. As the part of this culture many important studies were also came in existence on information use and library use by the general public. During the 1960s and 1970s some practices has done on identity politics of race, gender, sexual orientation, and the economically underprivileged groups. These studies indirectly played a considerable role in the direction of information seeking research studies.

In the late sixth and early seventh decade of 20th century information behavior has included as research area of library and information science education policy in the North American countries. It was as similar as a platform for scientists in their discipline. In 1973 a national conference was held on, “information service needs of the nation”, by national commission on libraries and information science (Marcia Bates 2010). During the 7th decade the focus on the social science has much turned
from natural sciences. Not only United States but Britain has put much concentration on social science research. Both countries have allocated grants for it. This situation helped to promote the research in information seeking behavior.

In the 80s and 90s many institutions such as, “The J. Paul Getty Trust” has put their interest in this regard. They released grants for the research in respective area. In the 2000s, Kari and Hartel (2007) studied the information behavior of people involved in activities with the aim of fulfillment and self-realization, and their own research provided examples of what could be learned along this line (Marcia Bates 2010).

Over the decades, varying amounts of information behavior research has been done in various professional contexts as well, including the health sciences, Law and business. Among the professions, it is almost certainly the health sciences where the largest body of information behavior research has been done- probably due to abundant funding- while the education profession despite the importance of information seeking for teachers, seems, mysteriously, to have drawn very little attention.

3.4.4 Indian scenario:

The topics concern to information needs, gathering habits, seeking, search strategies use pattern etc. has been discussed in India from 7th decade of 20th century. During the literature search regarding the present study, researcher observed that one sticking feature of the Indian literature on ‘user studies’ and its various facets on user research is that there are number of studies that forcing the requirement of user studies quoting the conclusions of the work done either in United States or in United Kingdom. The studies also prescribed further area of research without any observations or conclusions of its own. With the consideration of above mentioned negative circumstances some noticeable positive activities also happened in India. In 1962 IASLIC has arranged seminar on the topics of ‘the users and library and information services’. Krishnan Kumar (1982) conducted a study with the teachers and research scholars of chemistry department of Delhi University in 1968. In seventh decade Ranganathan (1970) has prepared a sound framework and base of user behaviour studies. In Indian circumstances when he discussed the psychology and user’s nature of work. Gopinath (1984) contributed greatly in the field of information studies, sources, transfer and communication, information seeking behaviour etc. he
also reviewed significant studies as well. In the 80s Pruthi and Nagpaul (1978) conducted two studies separately to determine the communication pattern and concern area of problem solving and idea generation, Dhany (1974) arranged a study with the readers of Rajsthan University library whereas Karuna Saha (1974) attempted to examine library use.


In the last decade of twentieth century several studies has been arranged by the researchers in the respective area. Jayadev H. Kadli and B. D. Kumar (2013) has reviewed studies regarding the information seeking behaviour in changing environment. In the study they found six Indian studies in the respective area. Vaishali Chaukhande (2008) found fourteen studies during her study regarding the information needs, use pattern, seeking behaviour arranged by the Indians in this decade.

In 21st century Indians has showed much more interest in the respective area. Lot of studies has arranged by the researchers, students and librarians in the subject area. Vaishali Chaukhande (2008) also searched out eight studies arranged during 2000-2005. Again Jayadev H. Kadli and B. D. Kumar (2013) encountered with the 18 studies conducted by the Indians during their study.
In the Indian universities having the department of library and information science and where research activities has undergoes, several studies regarding the information use, user studies, use pattern, information needs, and information seeking behaviour has taken place. The studies have arranged for the fulfillment of research projects for B. Lib. Sc., M. Lib. Sc., M. Phil, and for the doctoral degree that is Ph.D.


3.4.5 Importance of information seeking behavior:

Need gives birth to action. Realization of the need of the information is the first step on the path of information seeking. Seeking information is not a two way process information seeker has to find out and reach the spot of the location of the information. The main focus of the study is which process he will adopt to acquire such information. The requirement of the study of individual information seeking behaviour is some sort of representation of psychological state of the user in terms of aspiration beliefs and goals etc. The activity of study of information seeking behaviour is three folded.

i. To find out the motives or filings of information need,
ii. To plan out to seek and find strategy
iii. Eventually to execute it.

This activity is goal directed which means that motive or goal continuously governs the selection of steps to be executed. In the process of seeking information what mainly takes place is an effort to match a cognitive need of user with a source of information to satisfy the need (Ahamed Naved, 2008).

3.4.6 Nature of information seeking behaviour:

Information seeking behaviour is basically an analytical study. It examines the user’s active involvement in seeking information. The main focus of it is to find out the strategies and means users adopt to collect the desired information. As per the
opinion of Wimberley and Jones (1989), “Information seeking is a basic activity indulged in by all people and manifested through a particular behavior. It is also an aspect of scholarly work of most interest to academic. Librarians who strive to develop collections, services, and the organizational structures that facilitate information seeking”. According to Wilson (1979) the nature of information seeking behaviour with interrelationship among concepts in user study has been discussed in fig. no.3.2;

![Fig.3.2: Wilson’s model of information seeking behaviour with related concept in users study](image)

Thus the recognition of user’s need is the key factor to begin the nature of Information seeking behaviour.

3.4.7 Process of information seeking behaviour:

Summer (1984) thinks that there are five stages constitutes in the process of Information seeking behaviour. Stages are as follows;

i. Perceiving;
ii. Responding;
iii. Valuing;
iv. Organization; and
v. Characterisation.

When an individual seeks the information he has to include such aspects in his Information seeking process like as motives and purpose of information seeking, the
nature and types of information sought the mode and means to access, search, identify and acquire information and use of libraries and information centers.

According to Girija Kumar (1990) following process takes places in information seeking behavior:

i. Identifying objective;
ii. Defining needs;
iii. Establishing sources of information;
iv. Accessing information systems;
v. Information acquisition;
vi. Use of information; and
vii. Satisfaction / dissatisfaction.

According to Girija Kumar (1990) “the information seeking behaviour is mainly concerned with who needs what kind of information and for what reason; how information is found evaluated and used, and how there need can be identified and satisfied”. The various steps in the process are interrelated, acting and reacting upon each other in the sequential order.

Following figure is represented by him to show the dynamic situation of the process.

Fig. 3.3. Steps involved in information seeking behaviour

Note: I.S.B. -- Information seeking behaviour.
3.4.8 Factors affecting the information seeking behaviour:

A person in need of information seeks it through several means and modes. Many times such factors affect him to access the desired information. These factors create unhealthy circumstances in process of information seeking of the person in need of information. Thanuskodi (2010) interpreted such factors that affect the process of Information Seeking.

i. Social factors: Such traditional communities prohibit to access or to exercise information on such topics like sex education, fashion, music, etc. as a result a person belongs to such closed community or society can’t seek or acquire desired information.

ii. Political factors: The political systems don’t allow their departments to communicate information, especially information regarding the defense etc. generally in the regime of autocrat government people forbid the freedom of speech; right to express etc. certainly such things creates the unhealthy circumstances in the free flow of information. This factor also can affect the information seeking.

iii. Geographical factors: Location of a user is also an important factor in information seeking behaviour. If user is living at countryside (particularly in undeveloped nations) unavailability of the information communication facilities hinders him in getting desired information. Same time if desired information in located far away from its user, he can’t reach there in the time and can’t make proper use of the information that he desire.

iv. Educational factors: educated and uneducated people may react differently when they seek the required information. Educated person resort formal means like libraries, information systems, information centers where the uneducated person will be depend upon informal means like other people.

Money, personal health, willingness, time etc. are some other factors may affect the information seeking process.
3.5 Models of information behaviour:

3.5.1 Wilson’s (1981) model of information seeking behavior:

Wilson’s Model of 1981 is based on two main propositions:

i. Wilson doesn’t subscribe the view that information need is a primary need.

ii. Secondly he is against of any barrier that comes between user and the efforts to seek information to satisfy the need.

Further he also opines that physiological, Cognitive and Affective needs are the basic needs of an individual. He also suggested that the barriers that impede while searching the information will arise out of the same context.

![Wilson's Model of Information Seeking Behavior](image)

**Fig 3.4 : Wilson’s model of information seeking behavior**

This model is simplified version and described as a macro model. It also suggests how the information need arises and prevents the actual search for information. The general function of the model can be regarded as a source of pothouses.
3.5.2  Dervin’s model (1983, 1996):

Dervin’s (1992) sense making theory is not just a model of information seeking behaviour, but a lot more than that. The Dervin’s model is triangle shaped structure with three constituent elements viz situation gap and outcome. A situation in time and space, that defines and describes how the information problem arises. A gap identifies the line of demarcation between the contextual situation and desired situation. Outcome is obviously the consequences of the making process and a bridge is the means of fulfilling the gap between situation and outcome.

The figurative form of Dervin’s sense-making triangle is as follows:

![Dervin’s sense-making triangle](image)

**Fig.3.5.Dervin’s sense-making triangle**

However, it is much suitable to use a bridge metaphor is more directly, and presents the model as in the following figure:

![Dervin’s sense making model redrawn](image)

**Fig 3.6: Dervin’s sense making model redrawn**

3.5.3  Ellis (1989) and Ellis, Cox & Hall (1993) model:

Elaboration of Ellis (1997) on the different behaviors included in information seeking is not set out as a diagrammatic model. He doesn’t make claims to the effect that the different behaviors constitute a single set of stages. Ellis, Cox and Hall used
the term ‘features’ rather than ‘stages’ in information seeking process and as per their views the features are:

i. Starting: At this stage user actively begin to seek information.
ii. Changing: Here he (user) follows the chain of citations or other forms of referential connection like footnotes citations between materials.
iii. Borrowing: Semi-directed or structured searching.
iv. Differentiating: Using known different information sources to filter the amount of information.
v. Monitory: Keeping up to date or current awareness searching.
vi. Extracting: This stage suggests identifying the relevant materials in an information sources.
vii. Verifying: At this stage user Checks the accuracy of information.
viii. Ending: Defined as “typing up loose ends” through a final search.

The model is represented as below.

Fig 3.7: Figure showing features in information seeking process

Information Seeking Patterns of social scientists, Physical scientists and engineers in use of hypertext (Web) are described by the Ellis in his Behavioral Model.

3.5.4 Kuhlthau’s (1991) model:

In the process of information Kuhlthau (1991) proposed his Model. He aptly describes common pattern in user’s experience. There are two stages of the information search process, the association feeling, through and actions, appropriated information task. Kuhlthau’s Model complements with the Elli’s model by attaching
with these two stages. Kuhlthau’s perspectives clearly identifies the association of feeling, thoughts and action as phenomenological. The stages of this model are

i. Initiative
ii. Selective
iii. Exploration
iv. Formulation
v. Collection
vi. Presentation

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<tbody>
<tr>
<td>Feeling</td>
<td>Uncertainty</td>
<td>Optimism</td>
<td>Confusion</td>
<td>Clarity</td>
<td>sense of relief</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction or Dissatisfaction</td>
<td>Frustation</td>
<td>direction</td>
<td>Doubt</td>
<td>Confidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoughts</td>
<td>ambiguity</td>
<td>Specificity</td>
<td></td>
<td>Increase Interest</td>
<td>seeking pertinent information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actions</td>
<td>Seeking relevant information</td>
<td></td>
<td></td>
<td>seeking pertinent information</td>
<td></td>
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</tr>
</tbody>
</table>

**Figure 3.8 Kuhlthau’s (1991) model**
3.5.5  Wilson’s modified model (1996)

In 1996, Wilson revised his 1981’s model of information seeking behaviour. The model proper is also applicable in the various fields like psychology, innovation, health decision making, and communication and consumer research etc.

Several information scientists and experts developed number of models to categorize various aspects of information behavior. The subjective world of scientists is meticulously explored and characterized by Paisley, as constituting a series of contexts – local work environment, research specialty, discipline, larger cultural and political world, etc. In a model of 1981 Tom Wilson generalized information seeking which was widely used. He also reviewed various information behaviour models. To characterize many information needs Belkin (1982) Proposed the concept of “anomalous state of knowledge,” as many information needs. That is to say, they
argued that the information need is often complex and requires an extensive
description to cover all the factors really at play in people’s requests. Kuhlthau’s
Information search process model, based on extensive research, demonstrated how
intricately the conceptualization of a paper of project was bound up with confusions
up a bit of knowledge here and a bit of knowledge there, was seen to be an
appropriate description of much human searching to meet information needs, in
contrast to the previous generally assumed simple query that could be answered by a
single retrieved from just one database.

Wilson’s first model deals with a element pertaining to information seeking
and the barriers affecting action. Ones physiological, cognitive or affective needs
have their roots in one’s personal factors, environmental context etc. Wilson’s model
states that the process of information seeking is highly influenced by these needs.
Either as a medium or through the use of technology one satisfies these needs. Then
comes the stage of evaluation of information provided, whether it satisfies the
individual’s needs or not. The understanding of human information behaviour is best
understood as three intermingling frameworks: the user, the information system and
the information resources and Wilson’s very first model based on these frameworks.

Wilson revised his first model in 1994 to understand the different
predicaments in which information need is created. In this revised model of 1994
there is incorporation of Ellis’ stages of information-seeking: starting, browsing,
differentiating, monitoring, extracting, verifying and ending. The model is competent
each to recognize that an information need crops up from a previous psychological
need. An individual’s environmental context is interplay of personal habits and
social political economical and technological factors the needs are outcome of all
these factors. These factors can also prove as an obstacle for individual in searching
information.

Wilson proposed a third model in 1996. this model is off course based and
built upon the previous two models. There is incorporation of several new elements in
this model. These elements described the stages experienced by the person in context
or searcher while searching for information. These stages further included other two
stages i.e. an intermediate stage between the acknowledgement of a need and the
beginning of action. To show and prove that factors can be either supportive or preventive, in his second model, Wilson redefined the barriers and labeled them as ‘intervening variables’.

In particular, Dervin’s conception of “sense making” the efforts of people to make sense of many aspects of their lives through information seeking and use, has been a dominating force in recent research on information behavior (Darvin and Michel 1986).

Dervin dismissed prior studies on grounds that “the studies assumed that the information brick was being thrown into the empty bucket” i.e. into the user of information in one blow, this clever metaphor both characterized and caricatured much of the more classically empirical scientific approaches to research on information behavior, and gave qualitative research techniques and philosophies a boost.. Dervin’s “brick” image was unfair to the many researchers who did not take a simplistic view of information transfer, including many of the people mentioned in this entry to this point (Darvin and Michel 1986). However her emphasis on the importance of sense-making in motivation information seeking legitimated the subsequent emphasis on qualitative techniques in the field, and enlarged the perspective of the whole sub discipline of information behavior and visual form will also develop along with research and technologies. The pervasiveness of mobile technologies has already led to a proliferation of artwork using net-worked mobile devices.

It is yet to see whether the label information arts as an artistic practice will materialize or be more widely used. Over the couple of decades, the terminology for art forms including new technologies has always been flexible and has gone through numerous changes. It is quite certain that, the artistic practice that includes information, circulating through research, science and technologies and media distribution is here to inhibit and will grow up. Undoubtedly information arts is and will always be a developing field and will breathe in various context, assisted and presented by art and technology center, research and developments lab and traditional art institutions.