Influences of Personal Traits in the Process of Information Searching

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Abstract

Many influencing factors in the information search process have been identified in this research area. Among them, cognitive and psychological variables as the personal traits which make intellectual influences are commonly addressed. Here knowledge, skill and psychological elements are focused upon as key factors of this personal trait.

The study empirically examined the influences of personal traits in the process of information searches. The survey was conducted with the undergraduates of the faculty of Medicine at the University of Colombo (Sri Lanka) in January 2007. Based on the influence of the three elements of personal traits (knowledge, skills and psychological factors) the students' positions in the search process were identified. The mean/median value used for the data analysis indicated the influence levels of each trait.

The survey results indicated that a few students exhibited traits strongly tied to the level of their success, while the majority of them did not expertly search due to negatively or moderately influenced personal traits. Positive influences rarely occurred. A consideration of the influence levels made it clear that some paucity areas of KSP limited the success of those students.

Keywords: Personal traits; Knowledge factor; Skill factor; Psychological factor; Information search process; Paucity of traits influences.

INTRODUCTION

Overview

This paper aims to discuss how personal traits influence the information search process of students. The term "personal traits" is used in this paper which is considered as a set of common features of people's knowledge, skills and psychological factors. Personal traits influence people differently from one user to another. The positive influence of personal traits is a prerequisite for a successful information search.

In the information search process, it is possible that some searchers may seem far more successful than others. There might be someone who abandons searches at some stage of the process. These instances may reflect some paucity areas (shortage) of personal traits which create different influences (negatively, moderately, and positively) in the process of the information search.

In this paper, the search behavior of undergraduates at the faculty of Medicine at the University of Colombo in Sri Lanka was surveyed. Undergraduates are a group in a specific areas of academic information which always different from a normal group of information searchers. They require enough   knowledge, skill and confidence to search for information. However, this paper assumed that the influences of personal traits on the undergraduates are not supportive enough in the search process and verified.

Levels of influence of personal traits state the users' positions in the search process. Knowledge, Skills, and Psychological traits called "KSP" hereafter, the three elements of the personal traits, have been used to measure the users' positions. KSP measures how users proceed in the information search process and to what extent users accomplish their information –finding task. The results will be used to clarify how KSP influences (regulates) the users' performance.

CONCEPTUAL BACKGROUND

Many studies revealed that the information search process is deeply influenced by the *environmental, social, cultural, political, geographical, economical,* and *personal characteristics* of the user. Demographic variables and cognitive and psychological variables of the information seeker have been identified as the personal characteristics by those studies as mentioned below.

Johnson (1997) identified the influencing factors of the information seeker as *Antecedents factors* which have two basic categories; *background factors* and *personal relevance factors*. He defined the *background factor* as *demographic* (one's age, gender, ethnicity, education, occupation etc.) and *direct experience*. It is quite reasonable to assume that the experienced user may have more familiarity   with information seeking than new users. The *personal relevance factor* is defined as *salience* and *belief*. The *belief* is the topic of the subject and the *salience* is the information about the topic. *Salience* and *belief* represent the user's degree of knowledge.

Allen (1996) introduced four types of approach which deeply influence the search process calling them the contextual situations of the user. One of them, the *cognitive approach,* represents the individuals' *knowledge structure,* which strongly influences in the information search process. A cognitive phenomenon is the only intellectual representation of the human mind. The word "cognitive" refers to perceiving and knowing something. He identified some variation gaps in individual *knowledge structure* which is always linked with *life structure*. A cognitive phenomenon always represents the existing capacity of the individual's knowledge which creates gaps within the actions of the information search process.   Two different

people may display different behavior in an identical situation because of the different understanding of that particular situation due to their two different cognitive applications.

In addition, as defined by Wilson (1981-2000) in his series of studies, a variety of intervening variables affected the user in the search process. Mainly those were grouped into two kinds of *activating mechanism*. One is the *stress/coping theory* which expresses the affected variables of a person before the seeking activities and the second is the *risk/reward theory* which expresses the affected variables of a person in the search situation. These twin mechanisms are represented by several *intervening variables* such as *psychological, demographical, environmental,* and *interpersonal, source characteristics* and *self efficacy*. In his studies, a prominent place is given to psychological factors.

Kuhlthau (1993) considered that both the emotional and cognitive factors extensively influence the search process. She mainly identifies *uncertainty* as a key emotional factor. Uncertainty is expressed as a feeling of lacking confidence. In the search process, to reduce uncertainty, the users search more relevant information for their needs. When the user achieves relevant information, the search process comes to an end. Based on cognitive and emotional factors, students' information search behavior in libraries has been studied and a general model of the information search process (ISP) has been developed. It consists of six stages: *initiation, selection, exploration, formulation, collection* and *completion.* The search process involves a series of actions based on the information seekers' knowledge (cognition) and confidence (feelings).

Above researchers (Johnson (1997) Allen (1996) Wilson (1981-2000) Kuhlthau (1993)) used different terms to describe the affected variables and the levels of cognition and emotion. Literary findings were used to create a unified concept of personal traits. The influences of personal traits on users were disclosed by a few previous studies in different context and terms. The term "personal traits" is used to explain the *individual predisposition, person variables,* and *individual differences* in communication research (Anderson 1987).

The essays discussed have focused on the impact of cognitive and psychological variables on the process of an information search from different angles. The various terms expressed in different ways in the above discussion were used to design a unified concept of personal traits that can be applied to a broader range of intellectual representations or self perceptions. These terms are referred to generally as KSP in this paper and then to get a more extensive look at personal traits, a new dimension has been developed which is introduced as a "KSP structure". When needed, KSP structure can be unfolded to investigate the more specific areas of cognition in detail. Three indications of the traits structure are involved which influence success or failure because the searchers have to achieve and maintain very complex mental and emotional states at different stages in the process of the information search. Searchers must use their individual capacity to obtain the target information. In this situation, the three selected factors increase or decrease the degree of success in the information search process. The core components of the traits structure are knowledge, skill, and psychological factors which make a significant impact in the information search process and can be used as a unique combination for easy understanding of how searchers behave in the process and how it regulates their performances.

THEORITICAL FRAMEWORK - KSP STRUCTURE

Understanding how KSP structure behaves in the information search process will play a significant role. The clues of mental phenomena can be identified by knowledge levels and feelings (cognitive psychology). "Cognitive psychology concerns our capacities for sensory perception, memory, thinking, problem solving, and learning". (Stillings, et al, 1995, p.15)

This study concerns the cognition activated in three basic structured schemes such as knowledge (what is known), skills (ability) and psychology (feeling).

Knowledge traits

Knowledge is the interpersonal understanding or self schema about the self that is derived from past experience. It always organizes and guides people. The knowledge trait represents the individual's direct experience and it will actively construct the seeking process rather than just being a passive generalization about the self (Markus, 1983). Knowledge provides clear limits and boundaries regarding the information that is required, which is different for each person. The different forms of knowledge for each person are based on previous experience (Ingwerson, 1996). Knowledge can be received from outside as well as through one's own personal thoughts and experiences (Dervin, 1990). Everyone constructs their own meaning and one cannot be completely sure that one ever understands the same data in the same way as others do (Kuhlthau, 1993). In a sense, the levels of knowledge influence can be identified by evaluating the degree of effort in the information search process. Generally, the term "knowledge trait" refers to understanding; getting knowledge through experience.

Skill traits

Even though the user has knowledge, a series of functional user skills must be identified. These include, logical skills, communication skills and technical skills which are needed to handle, negotiate, compile, organize, sort, abridge, evaluate and analyze the available information. The aspect of a skill seems to be under the control of cognitive conditions (Stillings, 1995). It directly increases or decreases the information search ability of the user. The term "skill trait" refers to the ability to manipulate information.

Psychological traits

At each stage of the search process, there will be a conflict situation in one's mind with a series of questions due to some favorable psychological states influencing their level of confidence. Some seekers have significant differences in their levels of confidence in the search process which is based on their beliefs and values. The levels of confidence are represented through various forms such as enthusiasm, patience, perseverance, imagination, willingness or interest, curiosity, flexibility, frustration, happiness, phobia etc. The psychological traits are very important in the information search process because they reflect the invisible output of the user's feelings.

Significance of the traits combination

The combination of each factor of the traits (the cognitive and psychological view of the information seeker) could vary from user to user or within an individual user. But the three selected elements for of the KSP structure have stable personal characteristics which may be relevant to for every individual. This paper emphasizes that the information search process is an intentional action initiated by a user who is motivated by the KSP structure. The sequence of related activities of the personal traits of the user can be understood within a more unified package which is set by the KSP combination. The basic assumption of this study is that the information search process is strongly affected by   this combination of traits.

RESEARCH ISSUE & METHODOLOGY

Research questions

This paper aims to study the influences of personal traits that will help the searcher to find the information in the search process. Levels of trait influences are used to measure the

users' positions in the process. This study hypothesized that the personal traits structure of the undergraduates does not positively influence the process of information searching. The reason may be due to some paucity areas of personal traits (KSP) and its' own variations.

To test this hypothesis, the following research questions were considered as the research issues of this study.

1. Do the personal traits positively influence the information search process?
2. Do personal traits assist in accomplishing the information task? If not, what are the states of the users' positions in the search process?
3. Are there some paucity areas of trait influences?

With reference to the above issues, this study clarifies the relationship between personal traits and a few selected information incidents in the search process.

Methodology

A survey was carried out to examine the influences of personal traits on the process of information searches. The targeted population which was selected for the survey included all the undergraduate students in five academic years at the faculty of Medicine of the University of Colombo-Sri Lanka in 2007. Out of a total population (981), only 147 (15%) of the students were selected for the sample. A stratified random sampling technique was used for clustering the sample in terms of academic years. A structured questionnaire was personally distributed among the sample. 128 (87%) of respondents were answered. The survey was carried out during January 2007.

Survey instrument

A self administered questionnaire which included eighteen information incidents in the form of attitude statements was presented to gauge personal feelings. The questionnaire was constructed according to the main elements of the emergent information search process (ISP) of Kuhlthau (1991). Six information tasks from the model *(recognize, identify, investigate, formulate, gather* and *complete*) were partially used as the basis of the coding schema in this study. Three questions were included in each of the six stages**.** Those six information tasks were expanded into eighteen information incidents by factoring in the KSP items. Assessment of attitudes was designed according to the Likert's seven-point rating scale by allowing the respondents to select any point along a line. Each of the agreements have been given a certain value starting from strongly agree through to strongly disagree. The following information incidents were included as the addressed problem areas of the study. Each stage has three specific questions which cover knowledge traits (K), skill traits(S), and psychological traits (P)

Stage one-Recognize.
01. I start information seeking in the library with exact and steady ideas of my information needs. (K)
02. I can understand the use of information search tools in the library to find out my needs. (S)
03. I start an information search with certainty. (P)

Stage two-Identify
04. The links between the catalogue and the book shelves are complicated. I am unable to find books on   shelves as indicated by the catalogue. (K)
05. Most of my searches are author and the title of a book. Keywords matching, Boolean logic, subject headings are fairly useful. (S)
06. Library instructional programs increased my self–confidence when using the online catalogue. (P)

Stage three-Investigate.
07. I do not know how to use electronic instruments available in the library. (K)
08. Most of my information was found accidentally / by chance (Casual browsing) (S)

09. I felt hopeless; I am afraid to use E journals and databases for my needs (P)

Stage four-Formulate
10. (Inter Library Loan, Current Awareness Services, and Selective Dissemination of Information)
   I know the above services available in my library. (K)
11. I have never had any negotiation with the librarian when I have information problem. (S)
12. If I had lot more training I could use the library more effectively. (P)

Stage five-Gather
13. My understanding of the physical arrangements of the library is satisfactory. (K)
14. Bibliographies, references, indexers, abstracts are not useful for me when gathering information from the documents I have found. (S)
15. I am very pleased with the information that I found. (P)

Stage six-Complete
16. Each of the searches increased my knowledge in access to information. (K)
17. I know the library has additional information, but I don't have the ability to find everything   that I want. (S)
18. Anyway, I am satisfied. I am closing the search with more than 80% of sufficient information I searched (P)

RESULTS

An analysis of the results concurs with the corresponding task in the information search process's (ISP) six stages, accompanied by knowledge, skill and psychological representation. Each information task in the process was partially used as the coding schema in this paper as follows. How students: (Recognize), (Identify), (Investigate), (Formulate), and (Obtain/gather) (Complete) the search process. Each of the table contains the weighted total, mean or median and number of respondents for the variables. The mean/median value used for the data analysis was indicated the levels of influence in each incident.

KSP influences in the stage of search initiation (Recognition)

How personal traits function in the information search process were examined. The following points were assessed. 1) The knowledge levels of students when information needs occurred. 2) The variation of levels of skills in using information search tools in libraries. 3) The emotional level of confidence at the initial stage of the search process. Three personal traits at the initial stage of the search process have shown similar influences.

Table 01 – Analysis of traits' (KSP) influences – recognition

Attitudes of traits at information recognition	Variables	Weighted Total	Mean/Median Value
Knowledge levels of information need situation	Knowledge	464	*4
Skill in information search tools	Skill	508	3.96
Levels of confidence at search initiation	Certainty	459	*4

n=128   * indicate the median value

The statement "*I start information seeking in the library with exact and clear ideas of my information needs" w*as used to identify the students' level of knowledge of the area in which they are going to search. The majority of them didn't have any exact or clear ideas of their needs at that point and started searching with unfocused information needs. 45% (58) of respondents failed to set their own goals for information needs when they took action to initiate a search for information. 36% (46) of students were able to decide themselves on the information needed. 18% (24) of them were unable to decide their needs. The perceived knowledge levels of students at the stage of initiation are moderately high (Median=4). The existing knowledge levels of half of the users are focused and they know well about what they really want at the search initiation. But nearly half of them were unfocused when they initiate a search.

The respondents then have both negative 34% (44) and positive 39% (50) attitudes toward their skill in recognizing how to use the information search tools available in the library for initiating a search while 26% (34) remained without an opinion *("I can understand the use of information search tools in the library to find out my needs")*. Considerable numbers of respondents are not expert in tracking down information through formal search tools. The intellectual understanding of the use of search tools at the search initiation are moderately high (Mean=3.96).

Uncertainty at this stage moderately affects the students (*"I start an information search with certainty")*. It is obvious that the students' knowledge and skills in the above two statements seemed to increase the level of uncertainty. Only 24% (32) of students proceed the search with certainty and nearly 46% (59) of them start searching with a high level of uncertainty. 29% (38) of students were neutral to the statement (Median=4).

Influences of traits in the stage of search selection (Identification)

Some specifically related three information incidents which are very significant in the stage of information selection and their relation with the KSP traits were investigated. In this stage the user's task is to identify and select alternative lines of investigation to begin a search for information.

Table 02 – Analysis of traits' (KSP) influences – identification

Attitudes of traits at information identification	Variables	Weighted Total	Mean/Median Value
Links between catalog & shelves is understandable	Knowledge	509	3.97
Known document search preferences	Skill	643	*5
Confidence in use of catalog	confidence	566	4.42

n=128   * indicate the median value

The students' knowledge with links between the catalogue and the book shelves when searching for information in libraries was examined (*"The links between the catalogue and the book shelves are complicated. I am unable to find books on the shelves as indicated in the catalogue")*. 39% (50) of respondents did not understand the links while 40% (51) have knowledge of that linkage to make a planned examination of document searching and 21% (27) were undecided (Mean=3.97).

The students who are moderately knowledgeable about the links between the catalogue and book shelves referred to the use of entry vocabulary in the system. User preferred search terms and use of system search terms were investigated (*"Most of my searches are author and the title of a book. Keywords matching, Boolean logic, subject headings are fairly useful")*.

The level of skills in information selection mostly depends on known search terms. 62% (79) of respondents select authors and titles for information selections. Only 24% (31) use system search terms. 14% (18) were undecided. Known document search behavior is comparatively high among the students (Median=5). Ability to cluster subjects is negatively activated. At the stage of information selection, results suggest that the students are not innovative or "detective seekers" and react as "known documents seekers". Also students lack skills in clustering subjects using subject headings by checking the class numbers assigned to the documents, which is effective in the information search process.

The instructional programs were fairly improved the use of online catalogue *("Library instructional programs increased my self – confidence")*. 48% (62) were confident about the instructions while 19% (24) were not. 39% 42) were undecided. The confidence of the user in catalogue use is moderately high (Mean=4.42).

Influences of traits in the stage of search exploration (Investigation)

When the users process the search, they might be faced with complicated situations due to a lack of sense of finding more appropriate information particularly in a dynamic information environment. This situation may occur because of ignorance of technical instruments, lack of skill in information exploration or some technical phobia. Identification of these factors was done by using highly selected three dynamic information incidents in libraries.

Table 03 – Analysis of traits' (KSP) influences – investigation

Attitudes of traits at information investigation	Variables	Weighted Total	Mean/Median Value
Knowledge of technical instruments handling	Knowledge	454	3.55
Discovery of information (Accidental or deliberate)	Skill	485	3.78
Confidence in electronic resource usage	Phobia	472	*4

n=128   * indicate the median value

It could be assumed that lack of knowledge of information technology needed for investigation of information in libraries is a huge disadvantage for users *("I do not know how to use electronic instruments available in the library")*. Rapid advances in technical development and its higher application in libraries seem to be resulting in a decreased level of usage. The knowledge needed to understand these technical instruments and electronic devices is a key factor in the information search process.   Information handling, storage and retrieval are presently managed by information technology. The majority of users may have a lack of knowledge in searching for information which comes from a dynamic information environment.

Clearly, the observations above indicate that students lack the ability and knowledge to access information using electronic devices. 50% (64) of them have pointed out that their ability to cope with technical devices is insufficient. Only 19% (24) of respondents have sufficient knowledge. 31% (40) were undecided (Mean=3.55).

Even though the students have shown less ability to search for information available in electronic forms, their information comes from deep browsing as well as casual browsing *("Most of my information was found accidentally by chance (Casual browsing)")*. Perhaps their investigations were prevented by a lack of knowledge in the dynamic search process and may have broadly depended on conventional information searches. 35% (45) of them found information through casual browsing and 41% (52) received the same amount from deep searching (Mean=3.78).

Techno phobia occurred among the students reducing their confidence. *"I felt hopeless; I am afraid to use electronic journals and databases for my needs"*   Electronic resources available in the library were not used by 49% (63) of students due to some technological fears or afraid of using them. 32% (42) of them said they had confidence in using electronic resources, while 17% (23) were neutral to the statement.   E journal services and uses of databases were under only fair utilization due to technological fears (Median=4).

Influences of traits in the stage of search formulation (Formulate)

In the middle of the search, users have to depend on their own knowledge, skill and confidence to formulate the search well or contact an intermediary. The user should know certain boundaries of the search, where, how, what and whom to consult for information. All these come as queries. Query formulation is initially expressed either to oneself or to an intermediary. Personal knowledge could be used to formulate an accurate search.

Table 04– Analysis of traits' (KSP) influences – formulation

Attitudes of traits at information formulation	Variables	Weighted Total	Mean/Median Value
Understanding of library services	Knowledge	440	*3
Negotiation skill	Skill	297	*2
Confidence in library training	Frustration	260	*2

n=128   * indicate the median value

In order to understand user's knowledge of the different information services provided by the library, respondents were asked to indicate whether they know the following information services: Inter Library Loan, Current Awareness Services, and Selective Dissemination of Information *("I know the above library services available in my library")*. This paper identifies a concern that these services are underutilized due to unfamiliarity with their availability rather than the actual usefulness of those services. Results show that these services are moderately popularized among the students (Median=3).

Regarding the question negotiation skills of the user with intermediaries (*"I have never made any negotiation with the librarian when I have an information   problem"*) 85% (109) of students do not consult the librarian when they have information problems and only 14% (18) have negotiation skills (Median=2). Their negotiation skills were not adequately used to rectify the problems in information searching.

The level of satisfaction regarding the training programs given by the library was tested (*"If I had lot more training I could use the library more effectively"*). It received negative responses from the students. 94% (120) of them needed further instructions on how to use the library and their feedback shows that such instruction is highly requested (Median=2).

Influences of traits in the stage of obtaining/gathering

Understanding the physical mechanisms or information arrangements within a library is an important ability (obtaining/gathering) in the information search process. Though the user is absorbed in searching for the required information through available tools, the physical layout of shelving areas may hinder the recipients to some extent. Some major difficulties the user faces in the obtaining/ gathering stage of the information search process concern efficient library arrangements (System layout or physical arrangement). This link was identified by Kirkelals in 1983 as twin actions (information gathering and giving) which are very important in the search process such as information obtaining/gathering. Those are the matters of the location of information and intellectual access or interpretation of ideas within

sources. Relevance of information is another measure of basic user satisfaction on gathered information. In this stage, users' confidence can help them make a relevance assessment on the obtained information. The above information incidents were investigated as follows

Table 05 – Analysis of traits' (KSP) influences – gathering

Attitudes of traits at information gathering	Variables	Weighted Total	Mean/Median Value
Understanding of physical arrangements	Knowledge	610	*5
Usefulness of bibliographies, references, indexers	Skill	510	3.98
Satisfaction on relevance	Expectation	511	3.99

n=128   * indicate the median value

To the statement *("My understanding of the physical arrangements of the library is satisfactory")* about 56% (72) of respondents knew the physical arrangements of the library while 25% (33) were not aware of the physical layouts. Perhaps an item may be on the shelves but fails to be found when sought. Also nearly 18% (23) remained undecided (Median=5).

One of the failures of gathering information is the intellectual understanding of the information arrangements within the information resources *("Bibliographies, references, indexers, and abstracts are not useful for me when gathering   information from the documents which are found")*. 42% (54) of the students did not use the intellectual links of resources such as bibliographies, references, indexers and abstracts when they gathered information from the materials they find. 34% (44) used them for gathering information from the found information resources which was an effective way of accessing and gathering information. 23% (30) were neutral to the opinion (Mean=3.98).

32% (41) of recipients who found the relevant information (desired information) was satisfied *("I am very pleased with the information that I found")*. Also 27% (35) found irrelevant information during their search process with a high level of frustration. A significant feature is that the majority of them 40% (52) were unable to give relevant judgments on the information they found. The relevancy and satisfaction about information found was moderate. (Mean=3.99)

Influences of traits in the stage of complete

In the process of searching, each of the searches generates new ideas, knowledge, and skills which increase the confidence to proceed the next search comfortably. This practical training is influenced by search experience. Students were asked to indicate whether the previous search experience helped them to formulate a new search. A practical process will change the personal traits structure of the recipient day by day.

Table 06 – Analysis of traits' (KSP) influences – stage of complete

Attitudes of traits at information complete	Variables	Weighted Total	Mean/Median Value
Knowledge gained by the experience	Knowledge	643	*5
Overall skill in finding information	Skill	358	2.5
Total satisfaction at the end of the search	Satisfaction	399	*3

n=128   * indicate the median value

With reference to the statement *"Each of the searches increased my knowledge in access to information"* 63% (81) of the respondents agreed that each of the searches gave them

practical knowledge to proceed easily to the next search. 12% (15) of the users were not happy with the knowledge received from the practice while 25% (32) were undecided. Personal experiences have influenced the users positively (Median=5).

The majority of them agreed that they had not enough skill to retrieve information by them *("I know the library has additional information, but I don't have the ability to find every thing that I want").* 66% (84) of the users have indicated that their capability was insufficient to find all information to meet their   needs through the search process. Only 12% (15) of the students were confident with their skills (Median=2.5).

Information acquired through the entire process may not be enough for the total requirements of the user *("Anyway, I am satisfied. I am closing the search with more than 80% of sufficient information I searched").* At the stage of completion, most students did not find the maximum information they were looking for. Only 20% (25) of users received more than 80% of the information they required. 59% (76) of searchers close the search with feeling frustrated. The significant indication of the stage of search closer is that users meet less information than they actually required (Median=3).

DISCUSSION

Information incidents and their relation with traits influences

Most students are not expert in the   information search process. Students' searches have been influenced by different levels of personal traits whose incidents have mainly been studied in this paper. Mean and median score of KSP structure suggested in this paper show the influence on the eighteen information incidents. In most incidents, trait influences crossed over the moderate line but did not reach the positive line (see Table-07 and Figure-01).

Knowledge about the information needed is relatively high among the medical students and they could moderately focus the information ideas at the initiation of the search. Their level of skill in the use of information search tools in libraries also moderately influenced them. Also students initiate a search quite confidently.

Users' knowledge of the linkage between catalogue entries and bookshelves is not higher than we expected. Lack of skill in clustering subjects has also meant difficulties and a limitation in obtaining information. They were known search term seekers using, for example, author and title. Library instructional programs fairly increased their confidence to use the online catalogue.

The study revealed that students need direction to perform successful searches since their knowledge is inadequate to handle the technical instruments available in the library effectively and efficiently. Although the students are not knowledgeable in finding information through electronic devices, they received information from deep browsing (deliberate searching) as well as through casual browsing (by chance). But deep browsing was the method of accessing information used by the majority. This survey showed that information can not be found without intentionally searching for it though frustration was fairly affected due to techno phobias when they searched E journals and databases**.**

Students' understanding of specific library services is moderately high. But they are not consulting intermediaries due to lack of negotiation skills. If users could have more instructional programs it would increase their confidence. Also the survey revealed that the physical arrangements of the library are still not familiar to some students. Some have faced difficulties with the physical arrangements of shelves according to catalogue entries.

Finally, students obtained sufficient knowledge from their search to enable further searches. Still their skills are not sufficient to obtain all the required information and they closing the search with information that only moderately satisfy their needs.
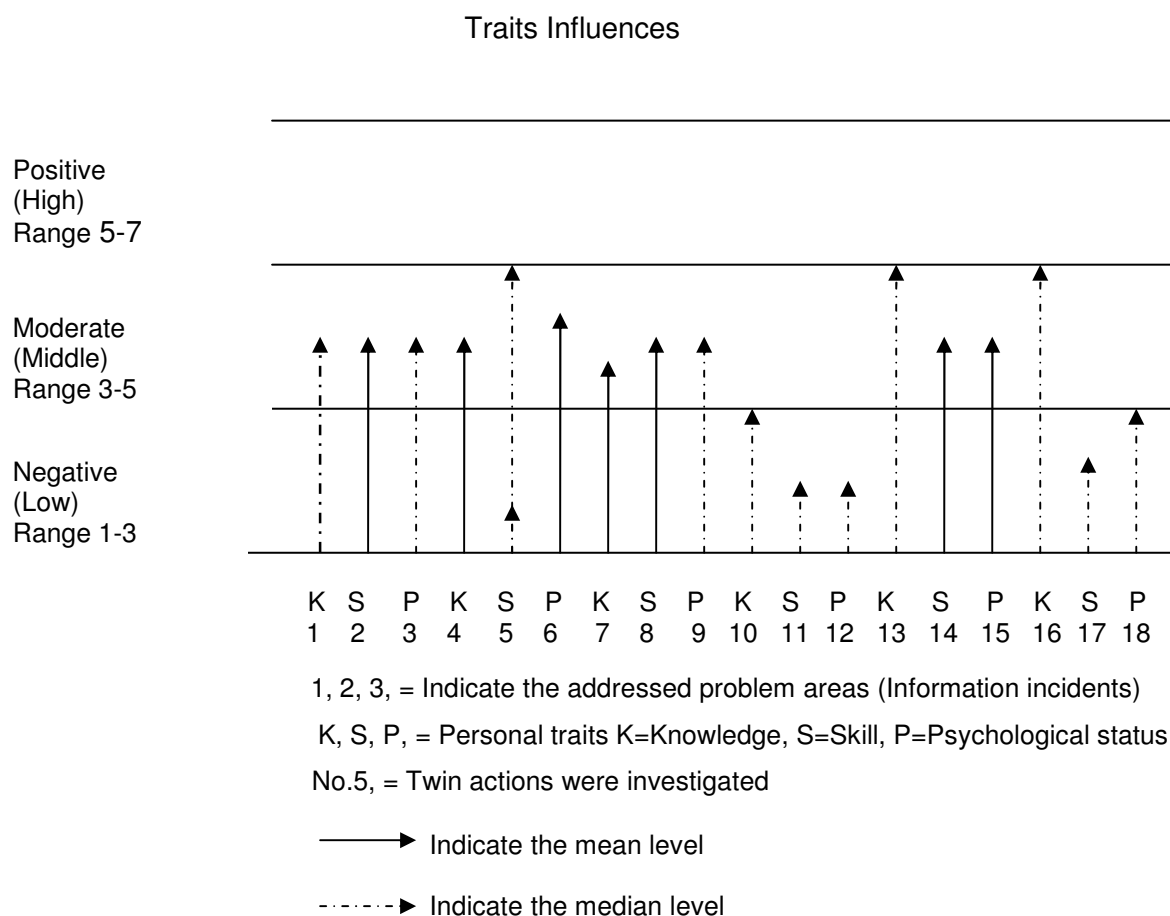
Table 07 - Influence of the KSP structure of the user in the information search

Coded Schema	Information incidents or addressed problems areas	Traits Category	Mean/ Median	Influence Levels
Recognize	Knowledge of information needs	Knowledge	*4	Moderate
	Skill in handling search tools	Skill	3.96	Moderate
	Levels of confidence	Certainty	*4	Moderate
Identify	Linkage of catalog &shelves	Knowledge	3.97	Moderate
	Preference of document selections	Skill	*5	Positive
	Confidence in catalog use	Confidence	4.42	Moderate
Investigate	Knowledge of technical instruments	Knowledge	3.55	Moderate
	Way of discovery of information	Skill	3.78	Moderate
	Confidence in electronic resources	Phobia	*4	Moderate
Formulate	Knowledge of library services	Knowledge	*3	Moderate
	Negotiation skill	Skill	*2	Negative
	Confidence in library training	Frustration	*2	Negative
Gather	Knowledge of physical layouts	Knowledge	*5	Positive
	Navigational skill of resources	Skill	3.98	Moderate
	Information relevancy	Expectation	3.99	Moderate
Complete	Knowledge gained by experience	Knowledge	*5	Positive
	Overall skill in finding information	Skill	*2.5	Negative
	Total satisfaction	Satisfaction	*3	Moderate

* Indicate the median value

The influence patterns recorded in the table-07 and presented in the diagram (Figure -01) conform the hypothesis through calculation of the mean and the median. The mean/median value used for the data analysis was further categorized into three basic mathematical predictions as follows (If mean/median calculation is in the value range 1-3, the influence is negative or lower, range 3-5 is in moderate level and 5-7 is in the positive level). In cases where the mean is not valid, the median substitutes it.

Figure 01 - Represents the levels of traits influence of the KSP structure

Traits Influences

1, 2, 3, = Indicate the addressed problem areas (Information incidents)

K, S, P, = Personal traits K=Knowledge, S=Skill, P=Psychological status

No.5, = Twin actions were investigated

⟶ Indicate the mean level

----▶ Indicate the median level

In summary, undergraduates' actual information search behavior was shown to be a complicated task which was differently influenced by their personal traits (KSP) structure. A consideration of the influence levels (points) makes it clear that some paucity areas of the (KSP) structure limited the potential effectiveness in the process of the information search. Individual trait influences on information search behavior is not particularly different from one incident to others and happens in equal patterns (line). In most cases it remained in the middle of the moderate range.

The students' information search styles depend on the influences of the KSP structure. However, the study proved that it was not constructively (positively) influenced. This paper has also emphasized that the basic motivator of the information search process was the impact of KSP structure on the individual. In each of the stage (initiation to closer) KSP influences were differently involved (negatively, moderately, and positively).

CONCLUSION

The trait issue in the cognitive and psychological domain was the most influential factor in the information search process. The level of influence was indicated by the students' choices, behavior, and ability to achieve their potential which generally correlated with personal traits. Personal traits related to each individual case were assigned a value range of negative, moderate or positive. Some undergraduates exhibited trait-related tendencies which, in most cases, made a deep impact on their level of success in information searches. But on the whole, knowledge, skills and psychological factors which show some paucity areas are equally prominent. Further studies are needed to expose the KSP structure within

different disciplines and nations etc. The findings of such studies will clarify whether the influence of personal traits represents a unique feature in the process of the information search.

Based on the results, the study found that the majority of students required consideration in mediation. There are some implications from this survey for information providers. They should have the ability to understand the "sense of influences" of each event of the user and need to be aware of the levels of trait influences that may be more common to students and which might make a deep impact on their search process. The paucity areas of the total intellectual capacity of the user could be decreased by a system. The highest levels of possible trait influences are beneficial for the information providers to enhance their services. It also helps to understand the distance between the user and the information while helping to prepare information skill programs based on the users' positions in the search process. It is hoped that the expressed trait diversity in the information search process, which could be prepared with a user focus, will lead to library systems being converted into a user- friendly places for information searching.

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