Uncertainty and perceived task complexity in information seeking process among lawyers

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ABSTRACT

The objective of this research was to understand the role of uncertainty in determining perceived task complexity and to understand the role played by law librarians in the information seeking process of lawyers. Interviews were conducted among commercial lawyers in Lagos State, Nigeria. The interviews transcribed were analysed using constant comparative analysis. Results showed that uncertainty related to feelings of anxiety was a major factor responsible for perceived task complexity among lawyers under study. Other factors identified include: lack of time for task performance, task novelty, information requirements, and non-availability of information resources. The roles of librarians as mediators in the information search process were also discussed.

Keywords: Uncertainty; Perceived task complexity; Information Search Process; Law librarians; Lawyers.

INTRODUCTION

Information seeking has been studied as part of activities that workers engage in, in order to perform their work activities. A worker is faced with various kinds of tasks; each with its own peculiarity such as the information required to perform the task. A worker looks for information majorly for the purpose of performing his/her job-related tasks. In doing so, he/she interacts with certain sources in order to get the desired information. However, the process of looking for information derives from perceived need for such information. In most cases, this felt need arises as a result of one's perception that his/her existing knowledge is inadequate to handle the task at hand. This situation is referred to as uncertainty. The feeling of uncertainty therefore prompts an individual to look for information in order to satisfy his information need. Uncertainty is important to the process of information seeking as it is the drive behind information seeking.

Meanwhile, looking for information requires that a worker interacts with certain information sources. At this stage, the role of librarians as mediators in the information seeking process becomes important. In the information seeking process, librarians have been identified as mediators in improving access to information (Kuhlthau 1994). They

intervene either by providing reference services such as helping in the location of information and information sources or by providing bibliographic instructions by teaching the methods for finding and using information tools and sources.

LITERATURE REVIEW

Uncertainty and Its Role in Information Seeking

Since the 1940s, uncertainty has been identified as a frequent characteristic and driving force behind information seeking (Anderson 2010). Uncertainty has been conceptualised in different information seeking studies such as Belkin (1980), Dervin (1992), and Kuhlthau (1991). Belkin (1980) relates uncertainty to information seeker's problem in forming query in order to get desired information. He relates uncertainty to the "Anomalous state of knowledge" (ASK) in which a gap in knowledge is bridged by getting desired information. Another conceptualisation of uncertainty is reflected in Dervin's sense making theory. The sense making theory explains the process by which people give meanings to their experiences (Dervin and Nilan 1986). Thus, it focuses on how an individual moves through time and space, encounters gaps, and "make sense" of such situation to move ahead (Dervin 1998). Uncertainty may be referred to as the extent to which a task performer is clear about how to accomplish a task (Leach et al. 2013). Kuhlthau (2004) defines uncertainty as "a cognitive state that commonly causes affective symptoms of anxiety and lack of confidence" (p.103). Kuhlthau conducted a series of studies to better understand the Information Search Process (ISP) Model and library users.

The ISP is also referred to task model, which begins with a task doer's feeling of anxiety at the beginning of the task performance, due to lack of information required for task performance (Kuhlthau 2004). The anxiety eventually gives way for confidence after information must have been gathered on the task accomplishment. Hence, the affective feeling is as a result of an initial cognitive feeling of uncertainty. Uncertainty is also characterised by feelings of frustration and irritation (Nahl 2007). It is an affective symptom that accompanies unclear idea about a topic or task. Uncertainty usually instigates the information seeking process, and it is often reduced as more information is obtained by the task performer (Kuhlthau 2004). It is a psychological experience of the task performer's perceived complexity of the task rather than the objective task itself (Kuhlthau 1999). Moreover it is characterised by a sense of being overwhelmed (Kuhlthau 1999), and frequently associated with risk, fear, and danger (Anderson 2006).

However, uncertainty may not essentially be associated with negative feelings of anxiety and confusion; it may also be reflected with positive feelings of motivation of new enquiry, innovation, and creative thinking (Anderson 2006; Chowdhury, Gibb, and Landoni 2011). In other words, uncertainty may also be characterised by positive feelings, thereby making the information seeker feel enthusiastic about looking for information.

A deep understanding of uncertainty is important in information seeking as it the bedrock of the information seeking process. Uncertainty has been studied for decades; however, there has been lack of studies that focus on the affective feelings associated

with uncertainty in library and information science studies prior to the Information Search Process (ISP) the ISP model by Kuhlthau (1991). The ISP model is important as it describes the dimensions (especially affective) of the uncertainty from the beginning to the end of the information seeking process. The information seeker usually experiences feelings of apprehension and vague, and this gives way for confidence as information is gathered on the topic (Kuhlthau 2004). Previous studies have shown that the stages of the ISP as experienced by an individual are a function of his/her knowledge of the problem at hand and the extent to which construction of knowledge should be made during the information seeking process. Routine tasks are usually seen as simple, since they are aimed at providing answers to simple questions. As such, they may not experience the stages of the Information Search Process (ISP); while complex tasks are characterised by high level of construction of knowledge, thus, individuals may experience the stages of the ISP (Kuhlthau and Tama 2001).

Task Complexity

Task complexity has been studied by various researchers from many disciplines such as organisational management (Campbell 1988; Wood 1986) and information science (Bystrom and Jarvelin 1995; Serola 2006, Saastamoinen et al. 2013). Campbell (1988) explained three dimensions of task complexity. One, task complexity which is "primarily psychological" (based on the experience of its performer). The second dimension relates to "person-task interaction", thus, task complexity depends on the capability of the task performer, while the third category involves the "objective task characteristics" and does not involve the task performer.

Basically, task complexity can either be subjective or objective. Objective task complexity is that which is determined independent of the task performer (Campbell, 1988). It is usually determined by the characteristics of the task itself; hence, the complexity of such tasks is not influenced by its performer. Wood (1986) suggests three measures of objective task complexity: component complexity (which is related to the information cues needed for task performance), coordinative complexity (relationship between task input and output), and dynamic complexity (which is as a result of transformation in world state that eventually have impact on association between input and output of task). Campbell (1988) suggests that objective task complexity is characterised by multiple paths, information diversity, conflicting interdependence of tasks, and several end states.

On the other hand, subjective or perceived task complexity is determined with the involvement of the task performer. Hence, the task performer determines the complexity of the task based on his/her perceptions about the task. In most cases, subjective task complexity involves the task performers' "a priori determinability" of the task requirements for task performance (Bystrom and Jarvelin 1995) and the psychological experience of the task performer (Gill and Hicks 2006). As such, this measure of task complexity is highly dependent on the task performer (Saastamoinen et al. 2013).

In information seeking studies, efforts have been made to understand task complexity for provision of improved systems for clients or users (Kuhlthau and Tama 2001). Nonetheless, there is need for a better understanding of users and their tasks in order to

ensure better service provision on the part of the librarians and information professionals.

Relationship between Uncertainty and Task Complexity

In the work environment, the driving force behind looking for information is for task performance. Tasks are part of work duties of professionals (Leckie, Pettigrew, and Sylvain 1996) and workers' information seeking behaviour heavily depends on the task to be accomplished. Task complexity has been found to be associated with feelings of uncertainty, particularly about the information required for the task accomplishment (Kuhlthau and Tama 2001). According to Aldaijy (2007, p.7) task complexity is "the degree to which work to be performed is difficult to understand and complex". It is also associated with psychological feelings of uncertainty about the task requirements such as information, and/or how to go about accomplishing the task, as well as the possibility of the task outcome (Bystrom and Hansen 2005; Guo 2011).

Theoretical Framework

The framework from which this study derives is the Information Search Process (ISP) model (Kuhlthau 1991). The ISP model explains the cognitive and affective experiences of information seekers. The model derives from a series of five studies of users' experiences during information seeking (Kuhlthau 1991). It explains user's "constructive activity of finding meaning from information in order to extend his/her state of knowledge on a particular problem or topic" (p.361). The ISP is a six-stage model (initiation, selection, exploration, formulation, collection, and search closure), with uncertainty and anxiety characterising the beginning of the stages.

The initiation stage is the stage where the lack of knowledge is first experienced and it is usually characterised by feelings of uncertainty. At the selection stage, a general topic or idea is recognized. As such, the feeling of uncertainty reduces and gives room for some confidence to begin the process of looking for information. The exploration stage is the stage where uncertainty may resurface if the seeker comes across inconsistent information. At the (third) formulation stage, an information seeker is able to form a focus; as a result, he/she is more confident. This stage followed by the collection stage, where the information seeker is more focused and relevant information is gathered; and uncertainty reduces. The information search process ends with the presentation stage. At this stage, the search for information is complete, and the information seeker is equipped with new knowledge and he/she is ready to describe or utilize the knowledge acquired. It integrates series of encounter by a user in the process of looking for information over a period of time. Although feelings of apprehension and uncertainty are common at the beginning of the information search process, it usually gives way for optimism and confidence at the end.

RESEARCH DESIGN

The study adopts the qualitative research design. Data were gathered using face-to-face interview. Twelve lawyers participated in the study. The interviews were conducted between July and September, 2013 and each session lasted between thirty and forty minutes. The interviews were recorded with voice recorder with the permissions of the

respondents. Notes were also taken by the researcher in order to keep records of non-verbal expressions of respondents. The questions were semi-structured in order to allow for participants' in-depth explanation or expression of their views (Newton 2010).

Verbatim transcriptions of the interviews were made, and the data was analysed using constant comparative analysis, thereby grouping similar responses under the same themes. Analysing data using the Constant Comparative Method involves the process by which a researcher gathers information on a concept by moving (back and forth) amid the data and field (Glaser and Strauss 1967). This method allows data to be broken down into units (Lincoln and Guba 1985) and then coded into categories.

Recorded data were initially transcribed, after which themes and sub-themes were generated using the guidelines suggested by Glaser and Strauss (1967). These steps involve:

1) Comparing the incidents related to each category
2) Combining the groups (categories) and their features
3) Delimiting the theory, and
4) Writing the theory

RESULTS

Participants' Demographic Profile
The interview participants consisted of ten males (83.3%) and two females (16.7%). Five of them (41.7%) hold a Bachelor degree in Law, five (41.7%) also hold Masters degree in Law (LLM), while the other two (16.6%) hold Doctoral degrees (PhD). In terms of their ages, one (8.3%) of them was less than thirty years, eight (66.7%) aged between 31-40 years, two (16.7%) were between 41-50 years, while one (8.3%) aged between 51-60 years. As regards their years of professional work experience, seven (58.3%) had worked for 6-10 years, three (25%) had worked between 1-5years, while the remaining two (16.7%) had 11-15 years' work experience.

Lawyers' Perception about Task Complexity
It is evident that lawyers perceive routine tasks such as soliciting as rather simple. Almost all lawyers under study agree with the fact that the advocacy task (preparation of court processes and appearance) is more complex because of its mental demand and time required for its completion. Simple tasks such drafting documents requires less time and information. This is in concord with Kuhlthau and Tama's (2001) findings where complex task was associated with the construction of knowledge. Respondents relate the complexity of the advocacy task to its mental and time demand. Some excerpts from the interviews are stated below:

> *...advocacy is more complex because it needs a lot of research in order to push home one's demand before their lordships... Unlike ordinary preparation of contractual agreement that will not take 3-4 hours in drafting.* (Respondent 4, Male, 41-50 years)

> *...any job involving litigation seems to be more difficult than the normal solicitor job. Solicitor job involves like writing a letter on behalf of a client, there are precedents you follow... But when you talk of litigation, then (nods his head) you have a major task ahead of you.* (Respondent 2, Male, 31-40 years)

Complex Tasks are Associated with Feelings of Uncertainty

Uncertainty associated with psychological feelings of anxiety and panic was expressed by some lawyers in situations where they had to perform tasks they felt were complex. Psychological feelings of anxiety were expressed especially at the beginning of the task, while lawyers became confident after they had gotten the desired information for the task performance. This is similar to the affective feelings as explained in Kuhlthau's ISP model, uncertainty gives way for confidence after information need is being satisfied and task accomplished. Some lawyers remarked:

> *...initially there was anxiety, but overtime I was able to equip myself with the law relating to that aspect of legal practice. So I felt at home at the end of the day. I built confidence over time because through the law reports, I became well equipped to handle the matter....* (Respondent 10, Male, 51-60 years)

> *Though I was a bit prepared, I had that psychological problem that how will I go about this? ... but at the end of the day, it went off....* (Respondent 2, Male, 31-40 years)

Meanwhile, some participants expressed uncertainty in relation to positive feelings of enthusiasm and motivation. This corroborates Anderson's (2006) and Chowdhury, et al.'s (2011) submission that uncertainty may not necessarily be associated with negative feelings. Some respondents expressed sense of motivation even when they were faced with difficult tasks. According to some respondents:

> *I am just the type that derives pleasure in discharging my duties, especially the difficult ones. I feel that if I do not complete the job I will not rest. I felt no sense of anxiety; I was determined...".* (Respondent 8, Male, 31-40 years)

> *..it was quite challenging, but I was not in any way disturbed because I knew right from the beginning that I will be able to handle the situation. It was tasking but it was just all good (smiling)...* (Respondent 9, Male, 31-40 years)

Experience Influences Feelings of Uncertainty

This study confirms that uncertainty is expected for complex tasks. It is rather taken as something expected and expressed positively by some others, especially the experts. Experts can be referred to as those having six to ten years professional experience according to Kuhlthau and Tama (2001). Negative feelings of uncertainty was regarded as something normal for the lawyers young at the bar, while uncertainty associated with positive feelings of enthusiasm and challenge was expected after some years of experience. As remarked by one respondent with over twelve years experience:

> *When I was young at bar, I used to panic when I was before the court, but over time, I became an expert, very good and brave*. (Respondent 6, Male, 41-50 years)

Another respondent remarked:

> *I was mentally challenged because it was first experience at the court of appeal. The Court of Appeal is next to the apex court. Even many senior lawyers don't appear there. They end up only and the high court level and the Magistrate courts which are lower courts.* (Respondent 2, Male, 31-40 years)

However, responses in relation to the influence of experience on uncertainty seem inconclusive. Regardless of experience, uncertainty was expressed as something normal in situations where task outcomes are unpredictable. As noted by a respondent who has over twelve years of work experience:

> *It is normal and human. If a person is engaging in anything that has to do with seeing the beatific facial of another person, especially their lordships on any case, you have to be anxious.. I have done my best in seeing   that   my   briefs   are   prepared   and   other   judicial   authorities   cited   are   apposite.   Will they[judges]   listen   to   it   as   overwhelming   enough   to   push   home   my demand?* (Respondent 4, Male, 41-50 years)

Other Factors That Contribute To Perceived Task Complexity

Having noted the association between uncertainty and task complexity, it was also found that some other factors apart from uncertainty are associated with perceived task complexity. Previous studies have shown that ask complexity has been various dimensions such as task analysability, difficulty, novelty, information requirements (Bystrom and Jarvelin 1995; Iskandar and Sanusi 2011; Gwidzka and Spence 2006). The other factors accountable for perceived task complexity as found in this study include lack of time for task performance, clarity of information sources to use for task performance, and kind of information required to perform such tasks.

i) Lack of time for task performance

Some of the respondents found their tasks complex because they were not given enough time to prepare for the task. Lack of time affects their ability to look for enough information to be able to represent their clients' interests, especially in court (advocacy) related cases.

A respondent complained about the impromptu assignment of a given task saying:

> *I was informed by my principal that I had to represent a client at the court in just fifteen minutes before the court hearing.... I had no choice than to plead to the court for a stand down when the case was called, so I could have some time to go through the files...* (Respondent 12, Male, 31-40 years)

Having enough time for task performance no doubt brings about productivity and positive outcomes from the task. As for a client who had enough time to seek information for task performance, his remark was;

> *I thank God that I had enough time to prepare for the task ahead. There was a period within which we were trying to settle the matter amicably. So within that period, I read through all the cases and the statutes relating to banking transactions... So I had equipped myself at that point in time...*
> (Respondent 10, Male, 51-60 years)

ii) Task novelty

Task novelty may also be associated to its complexity. Regardless of a task performer's experience on a job, the novelty of a specific task tend to contribute to the perceived complexity of such task. Performing a kind of specific task for the first time no doubt determines the perceived complexity of such tasks. According to a respondent who performed a task relating to drafting legal documents, even though he had performed certain related tasks before, he felt incorporation of trustees was quite complex because he was doing that for the first time in about five years of his career.

> *I never knew it would be that tasking. It got to a stage I told the corporate affairs staff that incorporated trustee is the most difficult out of all the incorporations... I was not aware of that because I had done "Limited" before, and it was easy, it took me less than a month...* (Respondent 9, Male, 31-40 years)

iii) Information requirements

Based on Bystrom's (2002) assertion, task complexity could be associated with the complexity of the information required for its accomplishment. As such, tasks that require more kinds of information may be perceived to be complex by the task doer. This was found in this study, as one of the respondents noted:

> *Talking about advocacy, the information required is among the factors contributing to its complexity. As you get more information, you get more equipped to prepare for your case and that greatly determines your success or otherwise on the case.... it is the most important aspect of the task...*.
> (Respondent 3, Female, below 30 years)

iv) Non-availability of information sources

The non-availability of the information sources to use for task accomplishment was another factor complained by respondents. In situations where task to be performed relates to issues that are of recent and do not have well established information sources, lawyers find such tasks quite difficult to perform as they have to make use of the resources at hand for the task performance. As complained by some respondents:

> *...although you have the Kelly's draftsman which is quite old and useful book when it comes to drafting documents, there are latest issues that are not in the draftsman like the issue of IT[information technology] agreement drafting. Availability of materials on this aspect of drafting is very rare. It makes it more*

challenging for those really involved in drafting of agreements.... (Respondent 11, Male, 31- 40 years)

In cases where we have a new area of law and there is scarcity of decided authorities, we rely on opinion of text writers and we may just combine internet sources with that.... (Respondent 7, Male, 31- 40 years)

Roles of Librarians as Mediators in the Information Search Process of Lawyers

Findings from the study indicate that librarians have been very important in the information search process of lawyers under study. The roles played by librarians as identified by respondents include provision of bibliographic instructions and reference services. This further reiterates the fact that librarians are not only helpful in the academic environment as found in many studies; they are also very important mediators when it comes to the information seeking of professionals.

i) Librarians' roles as reference service providers

Responses from the interviews show that librarians are very helpful in providing reference services to clients such as answering questions or helping in locating information and/or information sources. According to respondents:

...if you meet a professional librarian and you tell him/her this is what I want, he/she will tell you immediately, go to so and so place or catalogue, you'll get the information there. (Respondent 1, Female, 31-40 years)

Law professionals know what is available from the first shelf to the last, and that will save your own time because you have limited time. (Respondent 1, Female, 31-40 years)

There was a time I went to a library; I was just used to the old style of searching for materials all around... He [referring to the librarian] showed me so many ways of doing it... And since then, once I want to search for materials, I find it very easy to do...... (Respondent 12, Male, 31-40 years)

ii) Librarians' roles as bibliographic instructors

Giving bibliographic instruction is a very important role played by librarians as found in this study. Bibliographic instructions include teaching people the methods for finding and using information tools.

..... We were trained for like 4-5 days on how to search for all these legal materials online from important databases and from other sources. So we had to learn from them. The law librarians are very helpful in getting all these legal materials. (Respondent 5, Male, 31-40 years)

Albeit, it was obvious that apart from the knowledge of library science, librarians working in specialised libraries such as the law library need some knowledge of the domain or subject areas. This will assist in their organization and retrieval tasks when their help is needed by users. As complained by one respondent:

> *...our librarian is not a law librarian, she just happens to read library science and the way lawyers will* think *or be able to source for their own materials she may not be able to at that particular time.* (Respondent 8, Male, 31-40 years)

DISCUSSION

There have been efforts to understand task complexity and its antecedents in information studies. However, a handful of research has been done to understand the psychological feelings of the task performer in relation to the complexity of tasks. The findings from this study have enabled a better understanding of the psychological feelings of uncertainty a task performer goes through, which initiates the information seeking process while performing complex tasks. The feeling of uncertainty and complexity of tasks prompts the task performer to look for information to perform the task at hand. And this feeling of uncertainty gives way for confidence after the desired information must have been gathered.

In this study, lawyers identified routine tasks as simple ones that require less mental efforts and time. Feelings of uncertainty are associated with complex tasks, especially at the commencement of the tasks. Thus, uncertainty reduction can be said to initiate information seeking for a worker's task accomplishment.

However, there were different accounts on the psychological feelings of uncertainty among lawyers under study, while some expressed uncertainty with negative feelings of anxiety and panic, others who seem to have more experience expressed uncertainty with positive feelings of enthusiasm and critical thinking. As such, there were mixed outcome on the effects of experience on the perceived task complexity among the participants as some lawyers who may be referred to as quite "experienced" (that is, having worked for over five years) still expressed negative feelings of anxiety.

Findings from this study indicate that complex tasks are also characterised by factors such as lack of time, task novelty, information requirements, and non-availability of information sources to be used for task accomplishment. The importance of law librarians as mediators in the information seeking process was also a crucial finding of the study. Librarians act as mediators by providing reference services and bibliographic instructions which go a long way in helping lawyers' tasks' accomplishments.

CONCLUSION

Uncertainty which arises as a result of feelings of inadequate existing information has been the bedrock of information seeking studies for decades. Despite identifying uncertainty as the drive for information seeking, a handful of studies have focused on the affective dimension of the concept in the process of information seeking. Findings from the study indicate that workers do experience psychological feelings of uncertainty when they are faced with complex tasks.

In addition, the roles of librarians in the information seeking process have been found to be very vital. Librarians have been identified as being useful in the information search process by either giving bibliographic instructions or providing reference services. However, the knowledge of domain or subject area by librarians is also a factor which calls for concern, especially in areas like law, where the collections are specialised. As such, apart from the knowledge of librarianship, it is highly crucial that librarians (especially those are in the specialised libraries, e.g. law libraries, medical libraries, etc.) have a basic knowledge of the domain in which they are practising.

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