# The Krikelas' Model of Information-Seeking Behaviour: Implication for Information Service Delivery in Libraries

<sup>1</sup>Magnus Osahon Igbinovia & <sup>2</sup>Anthonia Omehia <sup>1</sup>David Umahi Federal University of Health Sciences <sup>2</sup>Ignatius Ajuru University of Education igbinoviamo@dufuhs.edu.ng/aomehia@gmail.com

### **ABSTRACT**

The Krikelas model of information seeking behaviour is one of the models that explain the process of information retrieval. How this model influences the information service delivery system in libraries seems to be missing in the literature. This article fills that gap by first examining the concepts that make up the model. Then, the article examines how components and prepositions of the model affect the delivery of information services in libraries. The study adopted a literature review method of the qualitative research approach to synthesize literature on the Krikelas' model of information seeking behaviour and information service delivery. The article illustrates the implication of the krikelas' model of ISB on strengthening users' access to information. It was recommended that libraries should reinforce their engagement with users to better understand users' needs before initiating the search process, which should be done as empathetically as possible.

**Keywords**: Information accessibility, Information seeking behaviour, Information services, Krikelas' model, Libraries.

### 1. INTRODUCTION

Libraries of all types share a common goal of information provision and as such their services are critically tailored towards the provision of information to their user constituents. The library therefore exists as an information system, comprising information resources, services, technologies, and professionals, working together to satisfy users' quest for information. Thus, all activities within the library have a shared goal of providing users with quality information. However, the provision of quality information services to library users could be predicated on their behavioural disposition in the quest for information that meets felt needs. This agrees with the assertion that the user is a vital and active participant in every information search process (Abdullahi et al., 2015). This makes the information seeking behaviour of users a factor of consideration in libraries' quest for quality information services provision.

Information seeking Behaviour (ISB) was coined by Wilson in 1981 (Kumar, 2017) and has since received enormous scholarly attention. Several definitions exist of ISB based on the perspective of various authors. However, one of the most prominent definitions of ISB was given by Krikelas as those activities of someone that are undertaken

in a bid to identify a message that meets the person's perceived need for information (Krikelas 1983 in Sharda et al., 2022). This makes ISB an essential aspect of users' studies for effective and efficient information service delivery in libraries. The behaviour of users when seeking information has been shown to influence information service delivery in libraries (Williams-Ilemobola et al., 2022). Therefore, to improve information service delivery in libraries, it is essential to critically examine the concept of ISB.

Several models have been proposed to explain the concept and process of ISB. According to Mukherjee (2018), these ISB models expose the processes or steps that an information user follows to get the needed information. Models enhance the tangibility of the concept being discussed by using drawings for clear illustration (Kumar, 2017). Thus, the aim of ISB models like Krikelas' model of ISB is to use drawings like diagrammes to bring clarity and understanding to information of the concept seeking, diagrammatically expressing the stages of users' engagement from a felt need to the satisfaction of such need. Over the years, a considerable number of such models have been developed to improve information access to users (Aina 2004). By implication, one of the crucial goals of these

models is to enhance access to information by providing diverse perspectives on information retrieval.

Some of the popular and predominant models of ISB are T. D. Wilson's models of 1981, 1994 & 1999; James Krikelas' model of 1983; Brenda Dervin's model of 1983; David Ellis' model of 1989; and Carol Kuhlthau's model of 1991 & 1993. These models have presented diverse perspectives on the understanding of ISB with a common goal of satisfying the information needs of users. However, the diverse perspectives of these models are worth investigating to expose the basic facts and most important ISB details in these models and reflect on their implications for improving information service delivery. This paper has comprehensively examined the Krikelas (1983) model of ISB and outlined its implication for information service delivery. This paper focused on Krikela's model of ISM because of its needcentered nature and the environment within which such need is created, which is crucial for investigations on ISB. Moreover, the model was argued by Sawant (2015) to be one of the notable ISB models based on known LIS literature on information wants and uncertainty. This implies that an inquiry into this model will provide a better understanding of how libraries can improve their delivery of information services through a thorough examination of the information needs of library users and the context within which these needs are created.

### 1.1 Research Objectives

The study aimed to theoretically examine Krikelas' model of ISB and its implication for information service delivery in libraries. To achieve this, the study explored:

- explain the concept of Krikelas' model of ISB,
- examine how concepts within the Krikelas' model of ISB affect information service delivery in libraries.

### 2. METHODOLOGY

To gather and examine previous research studies on Krikelas' ISB model and information service delivery in libraries, this paper employed a literature review methodology. This method works well for summarizing the literature on the identified problem or objectives guiding the study. To improve the likelihood of incorporating current,

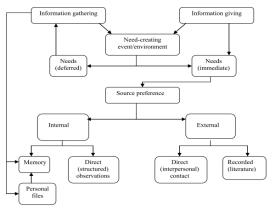
pertinent, and high-quality material into the study. The literature search was conducted on Google Scholar, filtered by language (English), currency (2014-2024), and relevance. The themes of the study's specific aims are described below, which also served as the basis for the search query utilized to retrieve the literature for this study.

### 3. FINDINGS AND DISCUSSION

### 3.1 The Concepts of the Krikelas' Model of ISB

The Krikelas' model of ISB is generally applicable to ISB and widely cited (Kumar, 2017), containing thirteen (13) components that explain workflow in the information seeking process. These components will be considered as concepts of the model. The model also shows the relationship between the concepts with the aid of single and double arrows, as it applies to most conceptual models.

The Krikelas model of ISB takes a unique dimension to users' behavioural tendencies towards information seeking by opining that users' first point of call for their information need is the mind. From the model, it can be depicted that information seeking starts from within or internally as humans are to an extent a repository of knowledge. According to Fitzgerald (2020), information users first attempt to apply their previous knowledge, experiences, and inventiveness to an information problem. Only after this internal method fails to tackle their problem or meet the information needs that they seek external solutions or sources. In seeking external sources, they first look at people around them; next, they seek experts on the subject and then go to literature until their needs are met. By implication, information users search for information from 'within out', giving priority to self and then others, as information sources, which demonstrates a preference for proximal sources of information. Thus, the model justifies the strength of tacit knowledge in meeting information needs. The Krikelas model as seen in Figure 1 shows the presence and mingling of thirteen components or concepts geared towards information retrieval and inspired by users' need for information.



**Figure 1:** Krikelas (1983) Model of Information Seeking Behaviour

The model depicts two routes for ISB: information gathering and information giving. These actions are driven by information needs which though were not expressly stated in the model but were referred to in the model's explanation (Savolainen, 2017). According to Krikelas (1983, p. 8), acknowledging doubt does not always result in actively seeking information. He categorized needs as deferred or immediate, based on behaviour that resulted in the experience of a need. Deferred needs result in information being stored in memory and/or physical media, whereas current demands are treated as if they were urgent (Case & Given, 2016). To deter an information need means that the need does not require urgent or instant attention. Consequently, Figure 1 shows that no action was taken from deferred needs, hence there is no connection linking deferred needs to source preference. The Figure however shows a link between deferred need and information gathering. In justifying such a connection, Radcliff (1996) noted that when a user deferred an information need for later, they follow a path of general information gathering where they accept and store information for recall upon demand. The author further asserted that information need is often deferred either because it is not critical or if the cost of meeting the need supersedes the cost of forgoing it. However, when the information needs urgent attention, then the information source is consulted.

The source preference in the Krikelas model of ISB shows the information users' priority of a source that would provide the information required to meet a felt need. According to Fitzgerald (2020), the Krikelas model demonstrates that users' primary source of information is their minds. Users

apply their previous knowledge, experiences, and inventiveness to problems to meet their information needs. By implication, users will search for information within themselves before going outside or consulting external sources. In seeking information internally, the user will need to access their memory and personal files. Also, as part of internally sourcing for information, the adopt information/knowledge users may generation techniques like direct observations. The model depicts a link between internal sources and information gathering, which implies that when information is gathered, it increases the knowledge base or memory of the user.

When internal sources are insufficient to remedy a problem, users seek answers elsewhere (external sources). They start with people close by, then go on to specialists on the subject, and lastly to literature (or documented knowledge) on the issue. Case in Erlianti and Fatmawati (2019 p.243) affirmed that external source is divided into two components, namely "direct contact" and "recorded literature". The component of "direct contact" is a face-to-face relationship between interpersonal things such as telephone, video calls, e-mail, and so forth. The record component is in the form of literature such as books and journals.

The Krikelas model therefore shows that people's need for information is borne out of events and/or their environment, and this need can be deferred or immediately. The immediate needs are given urgent attention by consulting information sources which could be internal or external. Consequently, in meeting their information needs, users seek their tacit knowledge, and personal records, engage in direct observation, explore impersonal contacts by asking friends/colleagues, and then consult literature, consecutively.

### 3.2 Krikelas Model of ISB and its Implication for Library Service Delivery

As seen in Figure 1, the components or concepts within the Krikelas model are connected to show their relationship with one another. The interaction between these concepts is aimed at ensuring an effective understanding of users' information seeking behaviour and how this understanding can be translated into meeting their needs. However, these components revolve around two main issues which are need-creating event/environment and

source preference. Other components are related to either of these two. Information gathering, information giving, needs (deferred), and needs (immediate) are all related to the need-creating event/environment. Whereas internal (memory, direct observation, and personal files) and external sources (direct interpersonal contact and recorded literature) are related to source preference. This section of the paper discusses what each of the two main concepts implies for information service delivery in libraries.

# 3.2.1 Need-creating event/environment and library service delivery

The Krikelas model of ISB is premised on the fact that an individual perceives a gap in his or her knowledge state that must be filled to solve a problem, prompting the individual to look for information from a variety of sources including human sources, information systems, or other types of information resources (Garg, 2016). As such, the information systems and resources in the library are consulted by users to fill a gap in their knowledge state. Library personnel through service transactions are expected to engage with users to have a clear understanding of the gap that needs to be filled to provide personalized service for excellent user experience and satisfaction.

In depicting his model, Krikelas asks us to imagine a situation in which an individual becomes aware of a condition of vulnerability and works to reduce that condition to an acceptable level (Kumar & Panday, 2022). The reason for that vulnerability could be a specific event or a continuous procedure related to work, normal life, or both. Where such vulnerability implies the need for information, an awareness of such need often prompts a response by consulting with an information source that could be available in the library. Understanding this concept is necessary for reinforcing empathy as a stride toward ensuring quality service delivery in libraries. Empathy as a human aspect of service delivery is characterized by care and individualized attention provided to library users in meeting their information needs (Parasuraman in Daniel & Berinyuy, 2010). The authors further implied that empathetic dealings with users include access, communication, and understanding. These are qualities that are required to appeal to all library users who are considered vulnerable based on their need for information.

# 3.2.2 Source Preference and Library Service Delivery

The Krikelas model allows the seeker to obtain knowledge both from the system and from humans. As a result, humans play a significant role in information dissemination (Bukhari et al., 2016). The Krikelas model of ISB emphasis tacit knowledge as the primary source of information to meet a need. This situates humans who possess such knowledge as an information source that can be explored to bridge the gap in people's state of knowledge. It also justifies the concept of the Human Library which has begun to gain scholarly attention as seen in the study of Bordonaro (2020). Human libraries have attracted several meanings, but the underlying concept is that Human Library as an event can be organized where prominent people who are knowledgeable in a particular subject can share their knowledge experiences with library users who have needs in related areas. Here the readers (those with information needs) and the human books (the knowledgeable individuals) engage in a dialogue that improves the knowledge base of the readers (Kwan, 2020). Although the Krikelas model suggests that direct contact with external sources starts with those around the information seeker (family, friends, and colleagues), the Human Library concept extends it to people who are knowledgeable in the subject of concern.

The Krikelas model asserts that when users' internal source fails to tackle their need for information, they seek external solutions; they seek information starting from nearby individuals, and experts on the subject, and then they move to relevant publications (Fitzgerald, 2020). This assertion suggests that users consider proximity in information seeking, that is, they use the proximal approach to seeking information that meets their needs. This implies the accessibility of information resources in libraries. Studies like that of Abubakar et al. (2020) have shown that the availability of information resources in libraries does not automatically imply accessibility. Therefore, the model corroborates the need to make information resources accessible to users. Such accessibility is a major determinant of information resources (print and electronic) utilization (Onuoha & Chukwueke, 2022; Arowosola et al., 2022) and even library websites (Kiruki & Mutula, 2021). Therefore, libraries are expected to strengthen their information structures and services for greater accessibility and subsequent utilization of information resources to meet felt needs.

Moreover, the proximal approach to information seeking by users as depicted by the Krikelas model raises some issues for consideration. One such issue is the concept of mobile library that has gradually fizzled out in most parts of the world. This validates the question of Rana (2018), where have all the mobile libraries gone? This kind of library service does not only bring information resources to users' doorstep, but it also fosters social inclusion and connectedness. In advocating for mobile libraries in the face of electronic access to information, the Institute for the Future of Education (2019) declares that "libraries are going nowhere (unless they have wheels)". This declaration justifies the necessity of mobile libraries, in the present technological dispensation (characterized by electronic access information), as it sustains reading culture and develops educational communication, beyond providing access. This is particularly essential in developing countries where there are perennial issues (like poor electricity, low bandwidth, high cost of data subscription, etc.), that could always undermine seamless access to electronic information resources. Other issues that the proximal approach to information resources raises are the adoption of technologies that provide users with remote access to information and the emphasis on access over ownership. The relevance of promoting accessibility to information resources was emphasized in the study of Zuniga (2022).

The Krikelas model suggests that humans are an essential source of information. As a result, in the model, most of the information required to meet felt needs is already stored in individual memories; so, on this basis, individual memory is more useful than a system (Bukhari et al., 2018). This has implications for libraries in building the knowledge base or improving the tacit knowledge of their users so they can have adequate tacit knowledge to explore in the presence of an information need. Libraries can achieve this by organizing capacity-building programmes or subject-based training for targeted users to increase their knowledge.

### 4. CONCLUSION AND RECOMMENDATIONS

The Krikelas model of ISB shows that information needs are stimulated either from events or the individual's environments and the users prioritize such needs and attend to the urgent ones. In attending to information needs considered to be urgent, users are naturally inclined to adopt a proximal approach by checking within to see if his or her knowledge base and personal records are sufficient to address the need. Consequently, external sources are consulted according to proximity. Information needs that are not urgent to the user or of relatively low value are deferred and can be met from internal sources. The concepts within the model show a connection towards improving information service delivery in libraries. The concepts also consolidate existing knowledge on the accessibility of information sources for improved information service delivery in libraries. Based on the findings of the study, the following are recommended.

- Library professionals, particularly reference librarians, should engage with users to have a clear understanding of their needs before initiating the search process.
- Library professionals should be empathetic in their dealings with users, demonstrating an understanding of their vulnerable state, showing care, and giving them individualized attention.
- iii) Libraries, particularly public libraries, should periodically organize Human Library Events where people can tap into the tacit knowledge of experts they look up to in society.
- iv) Libraries should concentrate more on access than ownership of information resources and set up structures that eliminate barriers to information access.
- v) Public libraries should revisit and reinstate the Mobile Library Service as a way of making information accessible to rural dwellers and the socially exclusive in society.

#### References

- Abdullahi, O., Igbinovia, M. O. & Solanke, O. E. (2015). Assessment of information needs and Seeking behavior of undergraduates in the University of Ilorin, Ilorin, Nigeria. *Information and Knowledge Management*, 5(4):1-16. Retrieved from http://iiste.org/journals/index.php/IKM/article/view/21648
- Abubakar, D., Mallo, G. I. & Suleiman, I. (2020).

  Availability and accessibility of
  information Resources in university
  libraries for students' academic use: A
  case study of pharmaceutical science
  students at The University of Jos. Library
  Philosophy and Practice (e-journal).
  4231.
  - https://digitalcommons.unl.edu/libphilprac/4231
- Aina, L.O. 2004. Towards improving information access by semi- and non-literate groups in Africa: A need for empirical studies for their information-seeking and retrieval patterns. *ProLISSA: Progress in Library and Information Science in Southern Africa*. Proceedings of the third biennial DISSAnet Conference, 28-29 October 2004 Farm Inn, Pretoria, South Africa. pp: 11-20.
- Arowosola, O. A., Onyenania, G. O. & George, L. A. (2022). Influence of awareness and Accessibility of electronic information resources use among students of public polytechnics in Lagos State. Lagos Journal of Library and Information Science, 10(1/2). https://www.ajol.info/index.php/ljlis/artic le/view/236491
- Bordonaro, K. (2020). The human library:
  Reframing library work with international students. *Journal of Library Administration*, 60:1, 97-108.
  DOI:10.1080/01930826.2019.1685271
- Bukhari, S., Suraya Hamid, S. & Ravana, S. D. (2016). Merging the models of information Seeking behaviour to generate generic phases. 2016 Third International Conference on Information Retrieval and Knowledge Management, 125-130.
- Bukhari, S. Hamid, S., Ravana, S. D. & and Ijab, M. T. (2018). *Information-Seeking Behaviour*

- Model of International Students' Use of Social Media. Knowledge Management International Conference (KMICe) 2018, 25–27 July 2018, Miri Sarawak, Malaysia
- Case, D.O. and Given L.M. (2016), Looking for Information. A Survey of Research on Information Seeking, Needs and Behavior, 4th ed., Emerald, Bingley, UK.
- Daniel, C. N. & Berinyuy, L. P. (2010). Using the SERVQUAL model to assess service quality and Customer satisfaction: An empirical study of grocery stores in Umea. Master thesis, Umeå School of Business. Retrieved from https://www.diva-portal.org/smash/get/diva2:327600/fullte xt01
- Erlianti, G. and Fatmawati, R. (2019). Informationseeking behavior of students with visual impairments in facing the industrial revolution era 4.0. Advances in Social Science, Education and Humanities Research. 3rd International Conference on Language, Literature, Culture, and Education (ICOLLITE 2019), 242-247.
- Erlianti Institute for the Future of Education (2019). Libraries are going nowhere (unless they have wheels). Retrieved from https://observatory.tec.mx/edunews/mobile-libraries/
- Kiruki, B. W. & Mutula, S. M. (2021). Accessibility and usability of library websites to students with visual and physical disabilities in Public Universities in Kenya. International Journal of Knowledge Content Development & Technology, 11(2), 55-75.
- Krikelas J. (1983) Information-seeking behavior: Patterns and concepts. *Drexel Library Quarterly*, 19(2), 5-20.
- Kumar, H. G.H. (2017). Information seeking behaviour: An overview. *Indian Journal of Library Science and Information Technology*, 2(1):23-27
- Kumar, V. & Panday, S. K. (2022). A Review of Information Seeking Behaviour (ISB) and its Models. *Journal of Advances and Scholarly Research in Allied Education*, 19(4),188-192.
- Manish Garg, M. (2016). Information Seeking Behaviour Models: A Brief Introduction. International Journal of Library and Information Studies, 6(1),161-168.

- Retrieved from https://www.ijlis.org/articles/information -seeking-behaviour-models-a-brief-introduction.pdf
- Mukhrjee, B. (2018). Models of Information Seeking Behavior. In Sharma, A. K. (ed.). Library Use and User Studies. Inflibnet Centre. Retrieved from https://ebooks.inflibnet.ac.in/lisp15/cha pter/models-of-information-seekingbehavior/
- Onuoha, J. & Chukwueke, C. (2023). Extent of accessibility and utilization of reference materials by Nigerian University Undergraduates. American Journal of Operations

  Management and Information Systems, 8(1), 1-2. Retrieved from https://www.sciencepublishinggroup.com/article/10.11648/j.ajomis.20230801.12
- Radcliff, C. J. (1996). Interpersonal communication and models of information seeking
  Behavior. Retrieved from http://hdl.handle.net/10797/10695
- Rana,O. (2018). Where have all the mobile libraries gone? Retrieved from https://booksbywomen.org/where-have-all-the-mobile-libraries-gone-by-oliviarana/
- Savolainen, R. (2017). Information needed as trigger and driver of information seeking:
  A conceptual analysis. *Aslib Journal of Information Management*, 69(1),
  Retrieved from
  http://dx.doi.org/10.1108/AJIM-08-2016-0139
- Sawant, S. (2015). Krikelas' Model of Information Seeking Behavior (1983). In M. Al-Suqri & A. Al-Aufi (Eds.), Information Seeking Behavior and Technology Adoption: Theories and Trends (pp. 82-93). IGI Global. https://doi.org/10.4018/978-1-4666-8156-9.ch005
- Sharda, P., Singh, K. & Singh, S. (2022). A quantitative study on information-seeking behaviour about wellness and nutrition in the digital age. *Library Philosophy and Practice (e-journal)*, 6953. Retrieved from https://digitalcommons.unl.edu/libphilpr ac/6953
- Williams-Ilemobola, O. B., Adetayo, A. J., Buhari, G. I. & Omorinkoba, O. G. (2022).

Information seeking behavior and use of library services by disabled students in Federal Universities in South-West, Nigeria, *International Information & Library Review*, 55(2), 95-104. Retrieved from https://doi.org/10.1080/10572317.2022.2074718