Journal of the Oriental Institute
M. S. University of Baroda
Impact Factor 7.1
ISSN No. 0030-5324
UGC Care Group I

Critical Analysis of Information Seeking Behavior Models and Their Applicability to Users of Military Colleges in India

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Abstract

Information seeking behaviour (ISB) has been a central area of inquiry within library and information science, communication studies, and behavioural psychology. It examines how individuals recognize their information needs, search for information, and utilize it effectively. This critical review paper explores the major models of ISB, including Wilson's model (1981, 1999), Ellis's model (1989), Kuhlthau's Information Search Process (1991), Krikelas's model (1983), and Leckie's model (1996), and evaluates their applicability to users of Indian military colleges. The study critically analyses the strengths, limitations, and contextual suitability of each model in understanding the structured, hierarchical, and security-sensitive information environment characteristic of military academic settings. The paper identifies gaps in conventional ISB frameworks when applied to military education institutions, where users' information behaviour is influenced by command hierarchies, restricted access protocols, and mission-oriented learning objectives. A comparative assessment highlights the need for a hybrid or adapted ISB model tailored for military contexts that integrates behavioural, situational, and technological variables. Furthermore, this paper proposes a synthesized analytical framework for future research and educational policy formulation, emphasizing digital literacy, secure information systems, and decision-centric learning. The findings aim to advance the theoretical understanding of information seeking behaviour in specialized domains, contributing to both academic discourse and institutional practice in the Indian defense education ecosystem.

Keywords: Information Seeking Behaviour, ISB Models, Military Colleges, Information Needs, Wilson Model, Kuhlthau Model, Critical Review, India

1. Introduction

Information is the lifeblood of knowledge-driven organizations, and the military education sector is no exception. In academic institutions under the defense ecosystem, information acts as both a pedagogical tool and a strategic resource. The understanding of how individuals, particularly within the disciplined and hierarchical framework of military colleges, seek, evaluate, and utilize information, forms the core of information science research. The study of Information Seeking Behaviour (ISB) provides critical insights into the cognitive, emotional, and contextual processes that guide how users engage with information resources (Wilson, 1999; Case & Given, 2016). In the Indian military educational environment, cadets, instructors, and research scholars operate within a unique informational context. Unlike civilian universities, military institutions function under controlled access systems, command hierarchies, and confidentiality protocols. Consequently, their information seeking behaviour is not purely academic—it is deeply embedded in organizational culture, operational needs,

and national security obligations. Understanding such behavioural dynamics is essential for designing effective library services, academic support systems, and digital repositories suited for this audience (Majumdar & Singh, 2020).

The evolution of ISB as a field date back to the 1970s and 1980s, when scholars began to move beyond system-oriented perspectives toward user-oriented paradigms. The shift from information retrieval efficiency to user information experience marked a significant change in the conceptual understanding of how individuals seek knowledge (Wilson, 1981; Ellis, 1989). Over the decades, numerous models have been proposed to conceptualize the various stages and influencing factors of the information seeking process. These include Wilson's problem-solving model, Kuhlthau's Information Search Process (ISP) model emphasizing emotional states, Krikelas's communication-based model, and Leckie's model tailored to professionals' information use. Each model offers a distinct lens to understand how users interact with information systems, but their applicability differs across disciplines and institutional structures (Foster, 2004). A critical question arises how applicable are these models within specialized academic ecosystems such as Indian military colleges? The context of military education presents a blend of academic rigor, strategic confidentiality, and hierarchical decision-making, where the information seeking process is often constrained by command lines and classified boundaries. This intersection of academic and operational needs makes military colleges a fascinating case for evaluating the relevance and limitations of conventional ISB models. Furthermore, rapid digitization and the introduction of secure intranet-based learning management systems have reshaped how cadets and faculty members access and disseminate information. Information literacy programs, digital archives, and knowledge repositories now coexist with traditional libraries, creating a hybrid information environment (Chaudhary & Sinha, 2021). Yet, despite this progress, limited research has explored ISB within defense education institutions, leading to an underdeveloped theoretical understanding of user behaviour in this sector.

2. Overview of Information Seeking Behaviour (ISB)

Information Seeking Behaviour (ISB) has emerged as one of the most dynamic and interdisciplinary domains within information science. It focuses on understanding how individuals identify their information needs, where they look for information, how they evaluate the credibility of information sources, and in what ways they use the acquired information to fulfill academic, professional, or personal objectives. Fundamentally, ISB reflects the cognitive, affective, and social processes through which people interact with information environments. The concept of ISB evolved as a response to the limitations of early system-centered approaches in library and information science. In the mid-20th century, research on information management primarily revolved around system efficiency the accuracy, speed, and recall capability of information retrieval systems (Belkin, 1980). Users were seen as passive recipients of information. However, by the 1970s and 1980s, scholars began to emphasize the user-centered paradigm, recognizing that the effectiveness of any information system depends not only on its design but also on how individuals engage with it (Wilson, 1981; Dervin, 1983). This marked the birth of ISB as an independent field of inquiry.

2.1 Theoretical Evolution of ISB Models

The evolution of ISB models can be traced through three main theoretical waves:

1. System-Oriented Models (Pre-1970s): Focused on optimizing information retrieval systems and databases. The user was viewed as a passive consumer, and success was measured in terms of system precision and recall.
2. User-Oriented Models (1970s–1990s): Scholars like Wilson (1981), Ellis (1989), and Krikelas (1983) began emphasizing user needs, search patterns, and decision-making processes. The focus shifted from "how systems deliver information" to "how users seek and use information."
3. Contextual and Constructivist Models (2000s–Present): Modern theories integrate social, cultural, and technological dimensions of information seeking. Frameworks like Foster's nonlinear model and Savolainen's everyday life information seeking (ELIS) highlight how users actively construct meaning through contextual interpretation rather than linear search patterns (Foster, 2004; Savolainen, 2015).

In military colleges, ISB cannot be adequately captured by linear or purely cognitive models alone. The complex mix of institutional discipline, restricted access, and operational secrecy requires a hybrid approach that combines behavioral, contextual, and technological variables. This review thus critically examines how classical ISB models can be adapted to meet the unique information dynamics of India's military educational system.

2.2 Significance of Studying ISB in Military Colleges

Understanding information seeking in military academic environments holds both theoretical and practical significance. From a theoretical standpoint, it contributes to expanding the scope of ISB models beyond civilian educational settings, enriching the broader knowledge base of information science. From a practical perspective, it helps librarians, instructors, and policymakers design more effective information systems, digital libraries, and instructional support mechanisms suited to the military's structure. The Indian military education ecosystem encompassing institutions like the National Defence Academy (NDA), Indian Military Academy (IMA), and Defence Services Staff College (DSSC) combines academic education with professional and tactical training. Each of these institutions relies heavily on timely and credible information dissemination. Therefore, understanding the information behaviour of cadets and faculty is essential not only for academic excellence but also for operational readiness and strategic thinking. Moreover, in an age where information warfare, cyber threats, and digital propaganda are rising concerns, the ability to discern credible information becomes a defense skill in itself. Developing an information literate military officer means cultivating a mindset that blends critical analysis with security awareness. Hence, studying ISB within this context aligns with the larger goals of national defense preparedness and educational innovation.

3. Review of Major Information Seeking Behavior Models

The conceptualization of Information Seeking Behavior (ISB) has been shaped by several influential theoretical models developed over the past four decades. Each model presents a distinct perspective on how individuals identify, search for, evaluate, and utilize information. While these models share a common goal of understanding human interaction with information, they differ significantly in terms of scope, theoretical underpinnings, and practical applicability.

3.1 Wilson's Model of Information Seeking Behavior

In the context of military colleges, Wilson's model offers strong explanatory value. Information seeking among cadets and officers is driven by task-related needs such as completing research assignments, preparing operational case studies, or analyzing defense scenarios. However, the model's assumption of open information access does not fully apply to military contexts, where access to sensitive information is highly regulated. Therefore, while Wilson's model provides a comprehensive foundation, it requires contextual adaptation for defense education environments (Kumar & Dutta, 2020).

3.2 Ellis's Behavioural Model of Information Seeking

In military academic institutions, Ellis's model aligns closely with how officers and cadets approach information gathering — structured, methodical, and purpose-driven. For example, cadets conducting tactical research might start with doctrinal materials (starting), then follow reference chains (chaining), and browse secure databases (browsing). However, the model lacks consideration of emotional and contextual factors like hierarchy-induced information barriers or stress-related urgency that often characterize the military learning environment (Rao & Nair, 2021).

3.3 Krikelas's Information Seeking Model

For military colleges, this dual approach is highly relevant. Information seeking in these institutions occurs through both formal academic systems (digital libraries, institutional intranets) and informal exchanges (peer discussions, mentorship, debriefings). However, Krikelas's model assumes a relatively open flow of communication — a limitation in the context of military institutions, where hierarchy and confidentiality restrict information circulation.

3.4 Kuhlthau's Information Search Process (ISP) Model

In military education settings, Kuhlthau's model offers valuable insights into the psychological aspects of cadet learning. For instance, during the exploration phase, cadets may experience confusion or anxiety when confronted with complex tactical theories or classified data limitations. The structured and time-sensitive nature of military training amplifies these affective states. Recognizing and addressing these emotions through guided library instruction, mentorship, and structured search strategies can significantly improve information literacy outcomes (Sinha, 2020).

3.5 Leckie's Model of Professional Information Seeking

For military educators and officers, this model offers strong applicability. Information seeking is inherently role-driven: instructors require data for curriculum design, officers for operational strategy, and cadets for academic projects. The model's emphasis on reliability and task orientation mirrors the disciplined nature of military academia. Nevertheless, it still assumes information autonomy, whereas in military environments, source selection is often pre-determined by command policy and data clearance levels (Sharma, 2022).

Table 1. Comparative Summary of Major Information Seeking Behaviour Models

Model	Key Focus	Core Features	Strengths	Limitations	Applicability to Military Colleges
Wilson (1981, 1999)	Contextual and behavioural	Emphasizes need, barriers, and environment	Comprehensive and adaptable	Assumes open access	High (with contextual adaptation)
Ellis (1989)	Behavioural stages	Seven distinct activities	Practical and empirical	Lacks emotional dimension	Moderate to High
Krikelas (1983)	Communication flow	Active vs. passive seeking	Recognizes formal/informal channels	Overlooks hierarchical restrictions	Moderate
Kuhlthau (1991)	Cognitive–affective process	Six stages with emotional aspects	Integrates feelings and cognition	Context-specific flexibility assumed	Moderate (requires modification)
Leckie (1996)	Role-based tasks	Professional context and information roles	Highly applicable to structured systems	Limited to professionals	High

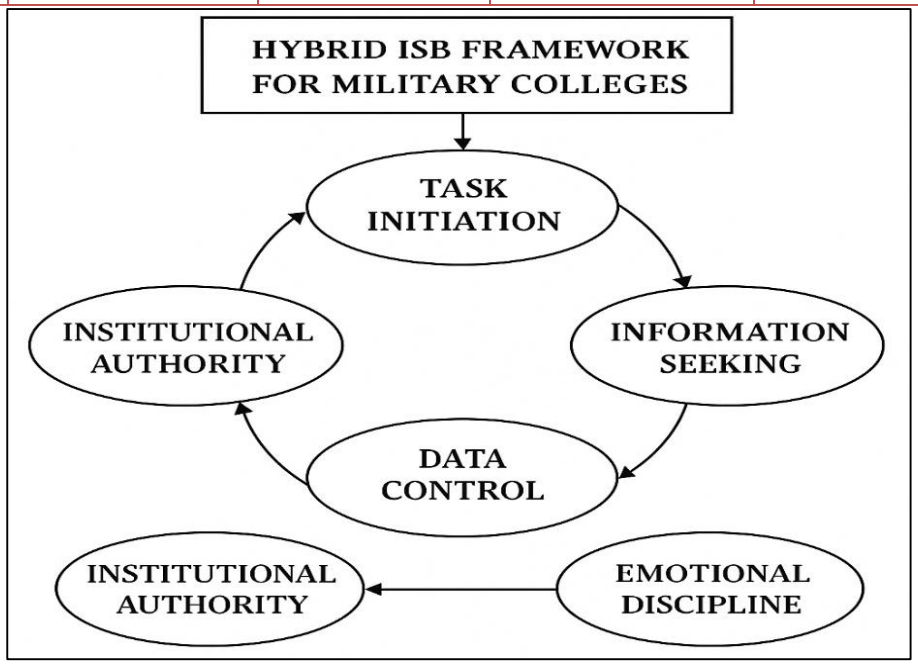

Figure 1: Comparative Conceptual Diagram of Major ISB Models

4. Applicability of ISB Models to Military Colleges in India

Information seeking in military education institutions is a complex, contextually layered process that differs substantially from civilian academic environments. Military colleges such as the National Defence Academy (NDA), Indian Military Academy (IMA), Defence Services Staff College (DSSC), College of Defence Management (CDM), and Naval War College (NWC) represent highly structured educational ecosystems where academic and strategic

learning intersect. The application of Information Seeking Behaviour (ISB) models in such institutions must therefore account for the unique characteristics of these settings — including command hierarchy, restricted access, security protocols, time-bound learning tasks, and mission-oriented goals.

This section evaluates the relevance, adaptability, and limitations of five major ISB models (Wilson, Ellis, Krikelas, Kuhlthau, and Leckie) in the Indian military education context, supported by real-world illustrations and comparative synthesis.

4.1 Applicability Analysis of Major ISB Models

(a) Wilson's Model

Wilson's model is partially applicable to military education contexts due to its emphasis on contextual and motivational variables. The model's recognition of intervening factors such as psychological, demographic, and environmental constraints makes it flexible enough to incorporate hierarchical and institutional influences. In Indian military colleges, information seeking often begins with a task command for instance, when a faculty member assigns a research problem on counter-insurgency operations or logistics management. The individual's information need is defined externally rather than self-initiated. Intervening variables such as data classification, availability of secure sources, and time constraints act as barriers. However, Wilson's assumption of free user agency does not hold. In the military, cadets cannot independently explore all information domains — their choices are filtered through institutional permissions. Thus, while Wilson's model provides a strong theoretical backbone, its practical application requires integrating institutional authority and information clearance levels as additional variables.

(b) Ellis's Model

Ellis's seven behavioural stages find substantial resonance in the disciplined, procedure-oriented behaviour of cadets and officers. The stages of starting, chaining, and verifying closely reflect how military students initiate information searches from prescribed reading lists, trace sources from citations, and confirm data authenticity before inclusion. Military learners are trained to adhere to precision and reliability aligning well with Ellis's behavioral emphasis on monitoring and extracting. For example, while preparing an operational analysis project, cadets systematically extract information from doctrinal publications and verify accuracy through command-approved sources.

(c) Krikelas's Model

Krikelas's communication-based model is moderately applicable to military colleges because it distinguishes between active and passive information acquisition. Military officers often acquire operational insights passively during briefings, simulations, and strategic discussions — making this distinction particularly useful.

(d) Kuhlthau's Model

Kuhlthau's ISP model brings critical value to understanding the affective dimension of military learners' experiences. Cadets frequently encounter uncertainty and frustration when handling complex topics like cyber warfare or strategic deterrence, especially under rigid time constraints. Kuhlthau's six-stage sequence initiation, selection, exploration, formulation, collection, and presentation mirrors the academic process of project writing or defense strategy formulation.

(e) Leckie's Model

Leckie's model, designed for professionals, fits seamlessly for military faculty members and research officers. Their information seeking is role-driven and goal-oriented. For instance, an instructor at the DSSC seeking materials for a counter-terrorism module follows a process identical to Leckie's framework: identification of task → recognition of information gap → consultation of reliable sources → application to teaching or decision-making.

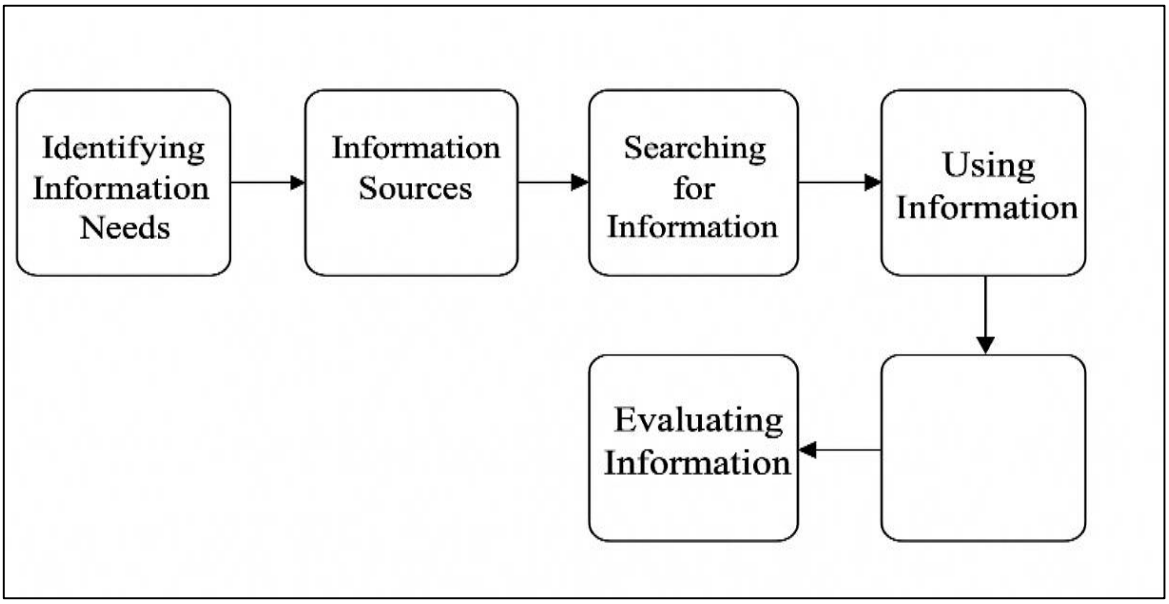

Figure 2: Proposed Hybrid ISB Framework for Military Colleges

Table 2. Applicability of ISB Models to Military Colleges in India

Model	Relevance Level	Strengths in Military Context	Limitations in Military Context	Suggested Adaptations
Wilson (1981, 1999)	High	Considers context and barriers; flexible	Ignores command authority; assumes open access	Add hierarchical control and security clearance variables
Ellis (1989)	Moderate–High	Reflects disciplined, stepwise search behaviour	Omits institutional restrictions	Combine with contextual elements from Wilson
Krikelas (1983)	Moderate	Distinguishes active/passive seeking	Fails to address hierarchical communication limits	Include command-based communication filters
Kuhlthau (1991)	Moderate	Highlights cognitive–emotional dynamics	Neglects institutional discipline and emotional control	Adapt affective stages to regulated academic culture
Leckie (1996)	High (for faculty)	Role- and task-driven; fits professional users	Limited student applicability; assumes autonomy	Extend to hierarchical task structures

5. Conclusion

The present critical review explored and analyzed the relevance and applicability of major Information Seeking Behavior (ISB) models—Wilson's (1981, 1999), Ellis's (1989), Krikelas's (1983), Kuhlthau's (1991), and Leckie's (1996) to the unique educational and organizational context of Indian military colleges. Through an extensive theoretical and contextual evaluation, the paper established that while these models have made substantial contributions to understanding user behavior in academic and professional domains, their direct transferability to military environments is limited without contextual adaptation.

Military colleges in India operate under a distinct educational philosophy that merges academic learning with strategic, hierarchical, and mission-based objectives. Information is not sought merely for intellectual curiosity but as a strategic instrument for decision-making, tactical analysis, and leadership development. Consequently, the process of seeking information in such settings is highly regulated, purpose-oriented, and mediated by institutional culture and command structures. The review demonstrated that Wilson's model provides a comprehensive contextual foundation but lacks mechanisms to incorporate authority and access control variables. Ellis's behavioural model aligns well with the disciplined and methodical approach of cadets but underrepresents emotional and contextual dimensions. Krikelas's communication framework acknowledges both formal and informal exchanges, yet fails to accommodate the hierarchical restrictions of defense institutions. Kuhlthau's model enriches understanding through emotional and cognitive insights but requires modification to reflect military discipline and emotional restraint. Finally, Leckie's professional model effectively captures role-based information seeking, particularly for military faculty and officers, but is less suited for students operating under command-defined academic structures.

Drawing upon these insights, the study proposed a Hybrid ISB Framework for Military Colleges, integrating behavioural, cognitive, and contextual variables within a security-conscious and hierarchical structure. The adapted framework conceptualizes ISB as a cyclical process influenced by task orientation, institutional authority, emotional discipline, and secure digital systems. It reflects how cadets and officers operate within a closed yet dynamic information environment that balances discipline, data control, and intellectual inquiry. The implications of this study extend beyond theoretical enrichment. It emphasizes the urgent need for defense educational policy-makers and academic administrators to redesign library systems, digital resources, and training curricula based on the realities of military information behaviour. By embedding hybrid ISB models into institutional strategy, military colleges can foster strategically literate officers capable of managing and interpreting information within both academic and operational contexts. Furthermore, the study calls for empirical validation of this hybrid framework through field-based research across multiple military institutions. Investigating ISB patterns using surveys, interviews, and digital analytics could offer practical data to refine the theoretical model, strengthen library science scholarship, and contribute to defense-oriented academic modernization. In essence, this paper concludes that understanding information seeking within the military context requires a paradigm shift—from perceiving it as an independent intellectual pursuit to recognizing it as a strategically governed behavioural process. This reorientation not only advances the discipline of Information Science but also aligns it with the strategic imperatives of 21st-century defense education in India.

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