ADVANCES IN KNOWLEDGE ORGANIZATION
Proceedings of International ISKO Conference - ISSN: 0938-5495 - 2026 - São Paulo

Information Seeking Abandonment: Reflections from a Knowledge Organization Perspective

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Abstract

Retrieval depends on the conceptual coherence of representation structures with vocabulary control to prevent ambiguities, terminological misalignments, and weaknesses in indexing processes. Authors such as Svenonius, Hjørland, Gnoli, and Fujita show that rigid hierarchies, semantic inconsistencies, and inflexible models act as cognitive barriers that may cause users to abandon information seeking. This study aims to analyze information seeking abandonment from the perspective of Knowledge Organization (KO), understanding that seeking interruption possibly reflects structural limitations within processes and systems. The methodology, of qualitative and theoretical-analytical nature, is based on an in-depth analysis of specialized literature to identify structural patterns that compromise cognitive navigability and affect the continuity of seeking. The results suggest that abandonments stem from internal failures in KO systems, and not only from behavioral factors, highlighting the need for more stable, interoperable, and semantically coherent conceptual models.

1.0 Introduction

In the field of information behavior, seeking abandonment is often interpreted as a result of individual and situational factors. The model proposed by Wilson (1999) shows that psychological, social, demographic, environmental variables, and source characteristics can act as barriers to the seeking process, influencing the continuation or interruption of the activity. According to the author, these intervening variables are fundamental to explaining why certain information needs can result in the total absence of seeking (Wilson 1999). From this perspective, abandonment is understood as part of the user's behavior in the face of conditions that hinder the progress of the informational task, a perspective corroborated and discussed in the studies by Chatman (1999), Kuhlthau (1991), and Ferreira and Small (1994), among many others, who analyzed how these barriers manifest in specific contexts.

In Knowledge Organization (KO), search abandonment is addressed as conceptual noise, a process comprised of misaligned terminology, unintuitive categories, lack of granularity, and internal system failures in the field. Granularity, in this context, refers to the size of the units into which an indexing or classificatory structure is divided, determining how fine or coarse the access points are. Browne and Jermey (2007) introduced the concept into indexing theory as a dimension of indexing depth, alongside exhaustivity and specificity, distinguishing indexes operating at the document, paragraph, or sentence level. Hjørland (2018) later incorporated granularity into his account of indexing languages as a parameter that, together with exhaustivity and specificity, influences the precision of subject representation and retrieval. The focus shifts from individual responsibility to the conceptual limitations within systems, contributing to the construction of more coherent, interoperable, and semantically stable structures.

In the context of representation, ambiguities, low granularity, and terminological inconsistencies, on the other hand, produce cognitive friction that compromises the efficiency of the seeking process. From this perspective, abandonment functions as an indicator of internal ruptures, revealing flaws that hinder cognitive navigability. Svenonius (2000) emphasizes that controlled vocabularies, classifications, and semantic relations should reduce ambiguity and ensure conceptual consistency to support effective information navigation.

Expanding this idea, Gnoli and Mei (2006) argue that the success of seeking depends on how the system is structured. For the authors, the rigid hierarchies of traditional classifications function as a 'wall': the user hits the wall, finds no flexibility, and ultimately gives up. Instead of this barrier, Gnoli and Mei (2006) advocate a 'network' structure through faceted classification in which the system no longer functions as an obstacle allowing users to navigate freely through different angles of a subject, without structural rigidity driving seeking abandonment. From this perspective, the continuity of seeking is not determined solely by individual cognitive factors, but also by classification systems and conceptual models. This view is reinforced by Hjørland (1997) as he advocates retrieval depends on the quality of domain structures and not exclusively on the individual users' actions. While cognitive navigation relates to the user's ability to access information within systems, both the representation provided by indexing and the system's construction itself demonstrate the need for consistent development that allows the user to navigate the system according to their cognitive factors.

KO forms the basis of information retrieval, and the semantic coherence of its structures is essential to ensure efficient search paths. Problems such as ambiguities, low granularity, terminological inconsistencies, and insufficient semantic relationships generate cognitive friction, which hampers the search process and fails to meet users' needs, as highlighted by Fujita (2012). The author also explains that the system prioritizes exhaustiveness without proper correction, which generates an excess of generic terms, resulting in informational noise when low retrieval precision occurs.

This process is directly related to indexing language (Hjørland 2018), which is composed of a set of different types of specialized instruments used during the representation process,

in order to control vocabulary. By addressing indexing depth, exhaustivity, specificity, and granularity, the author explains that it aims to present a neutral language, free of terminological aspects that might interfere with representation, such as ambiguity. Thus, indexing language features its own vocabulary and syntax, aiming to retrieve the most relevant documents. To perform this type of representation, tools provided by Knowledge Organization Systems (KOS), such as thesauri, ontologies, taxonomies, among others, are utilized.

In these scenarios, search abandonment emerges as a relevant indicator of internal disruptions, allowing the identification of flaws that compromise cognitive navigability. At this point, abandonment is exacerbated by failures in judgments of exhaustiveness and specificity.

Based on the premise that many cases of abandonment occur when classification systems, vocabulary, and semantic relations do not adequately reflect users' cognitive and terminological logic, the research question guiding this investigation is: to what extent can information seeking abandonment be understood as a consequence of limitations, ruptures, and conceptual flaws within Knowledge Organization Systems structures? To answer this question, the general objective of this study was to analyze information seeking abandonment as an indicator of structural flaws and inconsistencies in knowledge organization and representation. As specific objectives, the research proposes: first, to analyze how issues of representation, categorization, and terminology in Knowledge Organization System structures influence the continuity of information seeking; second, to investigate how inconsistencies in classifications, taxonomies, thesauri, ontologies, and other KO instruments contribute to seeking abandonment; and, finally, to examine the effects of misalignment between natural language and controlled language on user abandonment.

The importance of this research lies in analyzing KO domain, specifically the use of KOS tools, aiming at understanding information abandonment, part of the existing relationship across different fields of knowledge and discursive communities, characterized by domain analysis (Hjørland and Albrechtsen 1995).

2.0 Methodology

This research adopts a qualitative approach, of theoretical-analytical and descriptive nature. The bibliographic survey was conducted within the BRAPCI and LISA databases and within the ISKO proceedings, considered representative repositories in the area of Knowledge Organization. The search strategy was constructed from the definition of descriptors that reflected the central axes of the investigation. In Portuguese, the following combinations were used: ("abandono da busca informacional" OR "abandono da busca de informacao" AND "organizacao do conhecimento"); ("organizacao do conhecimento" AND "ruido conceitual" OR "inconsistencia conceitual); ("organizacao do conhecimento AND "linguagem de indexacao" OR "vocabularies controlados"). The terms were translated into their English equivalents, as required by the database.

The analysis began by reading titles and abstracts to ensure that the corpus truly represented the phenomenon of seeking abandonment from the perspective of conceptual coherence and representation systems. It was then observed that the previously defined expressions did not appear homogeneously in the literature and did not retrieve sufficient studies, revealing strong terminological dispersion. Therefore, an adjustment was made to the search strategy, requiring the expansion of the set of descriptors to include expressions found in the literature, such as *query abandonment, search failure, zero results behavior, information seeking breakdown, dead end search paths, unsuccessful searches, terminating a search, information environment, information noise, semantic gaps,* among others, in addition to their Portuguese equivalents for consultation in BRAPCI. Even so, direct search was limited not only because few studies explicitly address this concept, but also due to the lack of vocabulary standardization among areas and authors. This combination hinders the identification of equivalent terms and generates uncertainty about which expressions to use in formulating search strategies.

Starting with the initial core documents, a bibliographic chasing method known as "snowballing" was adopted. This technique is characterized for retrieving research concerning marginalized populations or hard-to-reach subjects. The procedure involved both backward snowballing and forward snowballing. Consequently, the final sample was selected based on the thematic relevance of the studies retrieved across the databases.

This strategy allowed the location of materials that had not been directly retrieved using the descriptors but contributed to understanding seeking abandonment from different theoretical perspectives. The combination of expanded descriptors and tracking references ensured the identification of a set of relevant studies, sufficient to support the analyses proposed within the scope of the research. The focus of the investigation is on the selected materials, which offer conceptual elements capable of deepening the discussion on the structural limitations of representation systems and their relationship with the interruption of seeking processes.

3.0 Presentation and Discussion of Results

After conducting searches in the LISA (Library and Information Science Abstracts), BRAPCI, and ISKO Brazil Proceedings databases, using the previously described strategies, 58 documents were identified as preliminary results. Of this total, 4 records were retrieved from BRAPCI, 3 documents were located in the ISKO Proceedings, and the remaining 51 were identified in the LISA database, which concentrated the majority of occurrences. However, after analyzing the titles, 6 documents were aligned with the proposed theme. Based on these results, the strategies defined in the systematic mapping protocol were applied to identify initiatives related to understanding the abandonment of information seeking as a consequence of conceptual ruptures, terminological inconsistencies, and structural weaknesses in Knowledge Organization Systems. The documentary analyzed corpus comprises fundamental works to examine how diverse structures and behaviors influence the information seeking abandonment. This process can be observed in Table 1.

Table 1 Synthesis of the analysis of the sampling framework

Author	Approach	Information Abandonment	Contribution
Bates (1989)	Berrypicking Model	System inability to track the cognitive fluidity of information needs.	Provided foundational theoretical concepts (berrypicking, browsing, and evolving search).
Li et al. (2009)	Good abandonment	Often stems from the immediate and structured fulfillment of information needs, especially in mobile search.	Provided empirical evidence that abandonment is directly linked to the quality of the system's conceptual representation.
Abualsaud (2021)	Behavioral perspective using eye-tracking	Information abandonment in search engines, distinguishing between positive and negative outcomes. Assessment of results prior to abandoning.	Shows that abandonment may stem from result inadequacy. Highlights conceptual dispersion due to the use of varied terminologies.
Araújo et al. (2018)	Influence of Information Architecture	Search continuity depends on structural clarity and consistency. Lack of terminological control and keyword variations indicate weaknesses that hinder precise information retrieval.	The misalignment between natural and controlled language creates user uncertainty, reinforcing that ruptures in KO compromise cognitive navigability and may lead to abandonment.
Saracevic (2007)	Non-neutral information analysis	Critique of retrieval models that treat information as stable and independent of interpretation.	Emphasizes information retrieval as an unstable, interpretative

Author	Approach	Information Abandonment	Contribution
			movement.
Hoyer et al. (2022)	Search as Learning	Each step involves mental operations that may advance or interrupt the task, making hesitations, reformulations, and abandonment a natural part of the experience. Continuation depends both on the user's interpretation and on the semantic organization and connection offered by the system.	Abandonment patterns reveal systemic limitations in supporting sense-making.

Source: elaborated by the authors.

Bates (1989) presents a strong critique of the traditional information retrieval model, which presupposes static information needs and a linear seeking trajectory. Bates proposes the *berrypicking model,* in which the user collects fragments of information along a dynamic, adaptive, and non-linear path. Each new piece of information found modifies the understanding of the problem and leads to the continuous reformulation of terms and strategies. The author highlights that seeking is composed of successive interruptions and changes of direction, determined by the semantic clues available in the system. Thus, the abandonment of micro-seeking occurs when the interface, the indexing vocabulary, or the classification structures cease to provide paths for the seeking to evolve. The interruption, therefore, does not stem from user failure, but from the system's inability to keep up with the cognitive fluidity of the information need. This study was selected as it contributes epistemologically by offering one of the most cited theoretical foundations in the field, consolidating terms such as *berrypicking,* browsing, and evolving search, and provides the arguments supporting the interpretation of abandonment as a response to system rigidity.

In their research, Li et al. (2009) introduce the notion of good abandonment demonstrating that not every interruption in seeking indicates failure. In many cases, the information need is met directly on the results page, eliminating the need for clicks or reformulations. Based on user seeking logs, the study shows that a large portion of abandonments derives from this immediate and structured information fulfillment, especially in mobile seeking. Conversely, the authors show that certain categories still present structural gaps leading to negative abandonment. Li et al. (2009) was selected as it provides empirical evidence that abandonment is directly related to the quality of the system's conceptual representation: when clarity, granularity, and good semantic relationships are in place, seeking ends satisfactorily; when gaps and ambiguities are present, the interruption indicates structural failures. The paper therefore reinforces its theoretical perspective that abandonment is also an indicator in Knowledge Organization, justifying its selection and relevance.

From a behavioral perspective, Abualsaud (2021) investigates seeking abandonment in search engines, distinguishing between "bad" abandonment, when the user does not find relevant results, and "good" abandonment, when the answer to the query appears directly

on the page. The author conducts experiments and uses techniques such as eye-tracking to understand how users evaluate results before abandoning seeking. Although the study is not directly related to the approach adopted in this research, which treats abandonment as a consequence of conceptual limitations inherent in the representation systems in Knowledge Organization, some elements can be used, as they contribute significantly to the development of the study: the recognition that abandonment does not always express a lack of interest, but often stems from the inadequacy of the presented results, and the observation that literature uses varied terminologies to describe the phenomenon, reinforcing the conceptual dispersion identified during the conducted survey.

The research by Araújo et al. (2018) offers a detailed analysis of how information architecture influences user navigation, retrieval, and retention in digital environments. Using attributes such as navigational taxonomies, metadata, folksonomy, human and computational mediation, accessibility, and usability, the authors demonstrate that search continuity depends on the clarity and consistency of the structures that organize the content. Although the repository offers effective navigation and filtering mechanisms, the lack of terminological control, errors and variations in the keywords assigned by the authors, and accessibility flaws indicate weaknesses that hinder the precise location of information. These results directly relate to this work by highlighting that the interruption of information seeking can emerge from conceptual noise, semantic inconsistencies, and a lack of standardization in representation tools, and not only from behavioral factors. The study also contributes by explaining how natural and documentary language misalignment generates uncertainty felt by the user, reinforcing that internal disruptions in information architecture compromise cognitive navigability and can lead to seeking abandonment.

Saracevic (2007) analyzes information as something that does not exist in a neutral way, but acquires meaning in the interactions between users, contexts, and systems. The author criticizes models that regard information as stable and independent of interpretation, arguing that retrieval is a process of meaning construction in which relevance is situated and influenced by cognitive, social, and cultural factors. This perspective resonates with his study by showing that uncertainties, ambiguities, reformulations, and even abandonment arise from the tensions between how the user constructs meaning and how systems organize and represent information. Thus, interruptions and deviations are not user failures, but effects of the systems' difficulties in dealing with the cognitive complexity of the seeking process. The text contributes, therefore, by reinforcing that information retrieval is an unstable interpretative movement in which relevance is continuously negotiated and reconstructed.

Information seeking is understood by Hoyer et al. (2022) as a continuous cognitive process in which the user constructs meaning by interacting with systems and information clues. Using the *Search as Learning* model, the study shows that each step involves mental operations that can advance or interrupt the task, making hesitations, reformulations, and abandonment a natural part of the experience. Seeking continuity depends both on the user's interpretation and on the semantic organization and connection offered by the system, which demonstrates its importance for those who carry out the process of representing knowledge, especially in the context of systems. The text distinguishes

productive abandonments, linked to learning, from harmful abandonments, caused by overload, noise, and structural failures. This perspective aligns with this research by showing that abandonment reveals semantic gaps and conceptual ruptures in systems. By considering it as an indicator of information mediation, the study points out that abandonments highlight the limits of systems in sustaining meaning-making and argues that integrating the *Search as Learning* model with Knowledge Organization can create more coherent environments capable of reducing seeking interruptions.

4.0 Theoretical Analysis and Analytical Synthesis

The analysis of the six selected articles reveals that the abandonment of information seeking is a phenomenon constructed by multiple factors, permeating structural, cognitive, and semantic dimensions. Although each study has distinct objectives, methods, and contexts, the set of studies highlights patterns that help to understand why some seeking trajectories develop continuously, while others are interrupted by structural flaws or interpretative discontinuities.

Across all articles, it is observed that most of the reported difficulties originate from the way systems organize, represent, and conceptually articulate their information. Rigid representation structures, inflexible vocabularies, lack of adequate granularity, and inconsistencies in the application of metadata are identified as factors that hinder navigation and create barriers that lead users to give up. In Bates's study, this understanding is revealed when the author describes the seeking path as a non-linear movement, dependent on semantic clues emerging in the process and which can be interrupted by structural flaws. Araújo et al. (2018) reach similar results by showing that terminological inconsistencies and standardization problems impede findability.

This conceptual noise is also identified in studies that focus on user behavior. Even when the methodological approach is based on logs or performance analyses, as in Li et al. (2009) and Abualsaud (2021), the nature of the difficulties encountered points to tensions in the alignment between natural language and documentary language. Many of the actions that result in abandonment, even when described as user "errors," stem from imprecise responses, inadequate descriptions, or a lack of interpretive clues capable of guiding continued use. This evidence suggests that abandonment should not be understood solely as an isolated user action, but as a result of the interaction between what the system offers and what the user is able to interpret.

Studies also converge in considering seeking as a dynamic process, subject to constant reformulations and reinterpretations. Bates (1989), Saracevic (2007), and Hoyer et al. (2022) reinforce that the seeking trajectory does not end in a single movement: it develops in a spiral, returning, advancing, or being diverted as new information emerges. This procedural structure gives meaning to the fact that hesitations, pauses, or momentary abandonments do not necessarily represent failures, but natural stages in the construction of meaning. However, when the system does not provide stable conceptual structures or does not offer realignment paths, these pauses are unproductive and become definitive

abandonments.

The collection of articles also demonstrates that abandonment has multiple natures. Li et al. (2009) and Hoyer et al. (2022) observed that some forms of abandonment can be considered positive, when the user finds their answer in advance or when abandonment is part of a cognitive reorientation. Conversely, negative abandonments are associated with information overload, inability to interpret results, inconsistencies in representation, or absence of semantic cues. In the study by Abualsaud (2021), for instance, abandonment is related to inadequate results, lack of contextualization, and conceptual imprecision. This diversity demonstrates that abandonment is a sensitive indicator of the system's structural quality and the way information is organized.

In summary, the general discussion in the articles shows that seeking continuity or interruption depends less on the individual user's performance and more on how information systems offer conceptual structures, interpretative clues, and conditions for cognitive navigability. Seeking requires semantic coherence, conceptual stability, and structural flexibility to be effective. When these conditions are not met, abandonment likely results as a symptom of inadequacies in Knowledge Organization.

When the results obtained in the six articles are compared to the theoretical framework discussed in the literature review, a significant convergence is verified between the empirical findings and the structural discussions developed by authors in Knowledge Organization. The theoretical framework indicated that information retrieval directly depends on the quality of representations, terminological coherence, solid semantic relationships, and the ability of systems to sustain continuous interpretive paths. The analyzed articles confirm these premises by showing that structural ruptures and failures in conceptual articulation are determining factors for abandonment.

The contributions by Svenonius (2000) and Fujita (2012) in highlighting the importance of terminological standardization and conceptual clarity, find support in the empirical analyses by Araújo et al. (2018), Saracevic (2007) and Abualsaud (2021). Terminological inconsistencies and indexing errors identified in these studies demonstrate that systems fragile from a semantic point of view lead to disorientation, frustrate the identification of relevance, and interrupt the seeking continuity. Conceptual noise, which, in theory, appears as an abstract threat to representational stability, manifests itself in the articles as a concrete phenomenon that directly impacts user behavior.

The critique of rigidity in hierarchical classifications by Gnoli and Mei (2006) is reiterated by the data presented by Bates (1989) and Araújo et al. (2018). Inflexible, unfaceted, and poorly articulated conceptual structures limit the possibilities for exploration and trap the user in semantic knots from which they cannot advance. This rigidity, theoretically seen as an epistemological limit of traditional classifications, becomes a practical barrier in empirical studies, leading to abandonment.

The relationships between relevance and domain, extensively discussed by Hjørland (1997), also find correspondence in the analyzed results. The interpretation of relevance in Saracevic (2007) and the notion of search as learning in Hoyer et al. (2022) reinforce that

relevance is not static, but constructed from the interaction between the user, the system, and the available conceptual structures. The absence of interpretative clues and well-structured semantic relationships prevents the user from recognizing relevance, resulting in abandonment. Thus, the analyzed articles give concrete form to the premise that relevance is determined by the epistemological and structural conditions of the system.

When integrated into the theoretical framework, the findings of the six articles underpin the thesis that seeking abandonment is an indicator of the structural quality of information systems. The convergence between theory and practice shows that cognitive disruptions, hesitations, and dropouts occur mainly when Knowledge Organization does not provide adequate conditions for meaning making. Information seeking depends on solid conceptual scaffolding: systems with coherent terminology, articulated semantic relationships, flexible classification structures, and interpretative cues that help users realign their path. The absence of these elements produces discontinuity, noise, and consequently, abandonment.

Thus, the intersection between the results of the articles and the theoretical framework not only confirms but also reinforces the conceptual basis of the research. Empirical studies show that the problems identified in literature, especially those related to conceptual noise, structural rigidity, and semantic limitations, are not merely theoretical issues but conditions that directly affect the user experience.

This convergence consolidates the understanding that abandonment is not a deviation from individual behavior but a symptom of the structural weaknesses of Knowledge Organization systems.

5.0 Final Considerations

This study aimed to analyze the abandonment of information seeking from the perspective of Knowledge Organization, aiming at understanding to what extent structural aspects of these systems can influence the interruption of the seeking trajectory. The analysis of the six selected articles, articulated with the theoretical framework, enabled us to achieve the objective by showing that abandonment is not merely an individual action or an expression of lack of skill, but tends to be related to conceptual and structural weaknesses that affect interpretative continuity throughout the seeking process.

The results suggest that conceptual breaks, terminological noise, inconsistencies in representation, weaknesses in semantic relationships, and inadequacies in control instruments can generate disorientation, cognitive overload, and loss of meaning. When these conditions manifest, the potential interruption of the users' journey increases, indicating that conceptual stability, terminological coherence, and clear articulation between concepts play a fundamental role in sustaining cognitive navigability. It was also observed that excessively rigid structural models reduce the possibility of exploration and create zones of semantic stagnation, in which interpretative clues that realign the seeking process are absent.

Given this scenario, representation tools such as thesauri, ontologies, and taxonomies should be revised and strengthened, prioritizing flexibility, interoperability, and semantic robustness. Improving the criteria of exhaustiveness, specificity, and consistency in the indexing process is a relevant strategy to reduce ambiguities, mitigate noise, and promote continuous informational pathways. By promoting more coherent representations, guided by specificity and domain appropriateness, systems tend to offer more favorable conditions for user persistence during the seeking process.

Based on the presented discussions, this study contributes by reinforcing the idea that abandonment can be interpreted as a useful indicator for identifying structural weaknesses not often perceived in traditional information system evaluations. This understanding broadens the scope of analysis by shifting the phenomenon from the exclusively behavioral field to an approach that also considers the technical and conceptual dimensions of knowledge organization.

Further studies should include theoretical and practical studies that analyze real-life situations of abandonment in different contexts. This will allow us to observe how structural failures occur routinely and how they can be avoided. Future research could also investigate more flexible organizational models that help integrate different terms and facilitate user navigation. Thus, this study highlights that strengthening the conceptual foundations of Knowledge Organization is an essential element to reduce the potential abandonment and promote more consistent and sustainable informational experiences.

AI Use Statement: No Artificial Intelligence (AI) tools were used in the preparation of this manuscript.

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