

User Information Seeking in the Digital Environment: A Qualitative Meta-Analysis Synthesizing Comprehension and Contemporary Frameworks

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Abstract:

This research implements a qualitative meta-analysis to synthesize comprehensive and contemporary theoretical frameworks governing human information seeking behaviors within the networked cyberspace environment. Addressing the epistemological gap between traditional, pre-digital behavioral models and modern algorithmic realities, the study executed a systematic query across premier academic databases, specifically Scopus, Web of Science, and EBSCO, covering the timeframe of 1995 to 2026. By applying rigorous inclusion criteria centered on conceptual relevance and qualitative rigor, a refined sample of core studies was subjected to systematic thematic coding and theoretical triangulation. The findings expose the requisite adaptations needed for traditional linear models to function within highly dynamic, algorithmic, and networked digital infrastructures. The resulting theoretical synthesis provides researchers with an updated conceptual toolbox for understanding and investigating contemporary digital information behavior, algorithmic literacy, and networked decision-making processes.

Keywords: Information-seeking theory; Qualitative meta-analysis; Synthesizing Comprehension; Digital Environment.

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1. Introduction

Nowadays, more than 66 percent of all people on Earth use the internet, with the latest data demonstrating a total of 5.35 billion users worldwide. The number of internet users has grown by 1.8 percent over the past 12 months, thanks to 97 million new users since the beginning of 2023 (1). As for the adoption of social media, its users continue to grow at the fastest pace seen in the 2023 data. Kepios analysis indicates that user growth has accelerated even further during the third quarter, with 76 million additional active users bringing the global total to 4.95 billion by the beginning of October 2023. With a third of internet time spent on social media at approximately 35.9 percent, the latest research by GWI demonstrates that the typical social media user now spends two hours and 23 minutes daily on social media (2). The remarkable advances in communication technologies and the dependence of many individuals on them in various aspects of their lives have reinforced their importance. Awareness of information and its value has become an issue, requiring acquiring expertise and skills to establish an information literacy mindset. This allows individuals to determine their informational needs, access sources, and optimally employ them to pursue self-directed learning skills.

Therefore, individuals' inclination toward digital media and reliance on it as a primary source for seeking and obtaining information has become indisputable. This assertion is supported by various academic studies on numerous topics, with a few examples presented as follows:

A study by Abueitah (2020) (3) demonstrated that content with designs on the Ministry of Health's page received more interaction compared to posts without visually engaging material. Despite the limited information available on government pages, which emerged as a primary source for Egyptian respondents seeking information about the virus, there was an increase in the percentage of respondents who accessed information about the virus. The results of Mohamed Abdel Hafed El-Saeedi (2020) (4) indicated that the internet and social media played crucial roles in raising public awareness and providing updates on the spread of the novel coronavirus. The "Youm7" website was determined as one of the most significant news sites followed by the study sample on Facebook. A study by Atiya (2016) (5) indicated that new media topped the sources preferred by Egyptians living in the Gulf countries for obtaining information about the economic situation in Egypt, ranking first at 74.1 percent. Traditional media classified second at 22.4 percent, and personal communication with family,

relatives, friends, and colleagues ranked last at 3.5 percent. A study by Abdullah (2014) (6) concluded that respondents rely heavily on and are deeply concerned about obtaining information on current issues and events from social networks. This underscores the internet's role as a crucial and influential source of information for users. The internet's appeal lies in its comprehensive and ample information, ease of use, swift coverage of events, variety, and the opportunity for interaction.

A study by Mohamed (2009) (7) found that the most important proportion, 53.8 percent, of the sample fulfilled a high level of reliance on the internet as a source of political information, with positive attitudes towards electronic political content. They endorsed it as a quick means for obtaining information, communication, interaction, and expression.

Therefore, amid the rapid digital transformation experienced in the media and communication landscape, the urgent need to re-evaluate and develop traditional theories in line with contemporary digital realities has emerged. Despite the abundance of studies addressing several aspects of information-seeking behavior in the digital information environment, there is a clear knowledge gap in our comprehensive understanding of how the theory of information-seeking adapts to the increasing complexities of its application. This gap is particularly evident in the educational context, where researchers, based on their experiences as professors, have determined a significant need to provide updated conceptual and practical models for communication theories, encompassing the theory of information seeking. This deficiency must be clarified for students as they struggle to link theoretical concepts to practical realities in today's environment. It emphasizes the urgent need to revise these theories and develop models that are more relevant to the contemporary context.

This article seeks to bridge this gap by using a qualitative meta-analysis methodology. It compiles and analyzes the results of recent studies (study sample) that have discussed the theory of information seeking in the digital context, focusing on deriving an applicable conceptual model that can be applied in the educational environment. We have encountered a series of essential questions from what has been introduced: What is information? How do we deal with it? What is its purpose? What are its various available sources on the network? How do we search for it? What is the nature of the researcher seeking it? Through these questions, two fundamental concepts within this digital environment become clear: the first is information seeking, which represents an advantage for those who

possess its skill and a weakness for those who do not, making it a measure of societal progress in this era. The second is the concept of information literacy, which emphasizes its significance in allowing individuals to solve technical problems, comprehend several fundamental changes, form objective judgments about the issues and problems they face, and facilitate access to what they need in their lives and work.

This has led us to examine information within the digital environment through one of the most prominent communication theories: The Theory of Information Seeking. We will define the theory, explore its components and hypotheses, and attempt to present projections and concepts on how it operates in cyberspace. Furthermore, we propose a model developed by the researchers to clarify this process.

Therefore, we can raise the following question:

How does the process of information seeking by users in cyberspace manifest?

This leads to a series of sub-questions:

- What are the most significant epistemological transformations of the information-seeking theory in the digital environment?
- What are the fundamental changes related to the components of the information-seeking theory from the perspective of the digital environment?
- Can a conceptual model be proposed to frame the information-seeking process in the digital environment?

2. Concept Definitions

Information: This term refers to "a set of data, meanings, knowledge, and content associated with a thing or topic, assisting those interested to know and understand it" (8). Therefore, information is a collection of processed data that serves a specific purpose and helps the information seeker gain knowledge to address his problems. Its forms vary between formal, such as books and reports, and informal, such as obtaining information from friends and other sources.

Information-Seeking Behavior: This includes all the activities an individual engages in to seek out, identify, select, and utilize information. (9). It also encompasses processes that aim to acquire information to meet individuals' informational needs, fulfill goals, make decisions, and solve problems within a specified time (10). Thus, it is the activity that a person undertakes due to their

relationship with specific environmental conditions, where they continuously strive to develop and understand these conditions to satisfy their needs.

Information Literacy: describes the skills required for lifelong learning and problem-solving in the digital age. These skills involve recognizing the needed information, developing a search strategy, determining and accessing retrieved information sources, and employing them efficiently (11). This term was utilized to refer to the information user in the digital age, where awareness of information has become necessary to acquire in light of the information explosion to enhance how they handle information.

Digital Spaces: These are limited spaces in the virtual world where individuals communicate to exchange various information and meet their needs (12). The concept emphasizes that the Internet offers a space and domain through its network as a communication channel, enabling users to exchange information and data through multiple media.

3. Study Importance

The significance of this study lies in its focus on a serious and contemporary topic by emphasizing digital communicative spaces as a modern tool for spreading and providing information, as well as raising awareness about it. These spaces serve as a dynamic mechanism to help solve several problems—whether associated with knowledge, technology, or profession—that users of these cyberspaces encounter, considering their information sources. The study also aligns with the significant attention digital media has received, examining its extensive use by the public and their information-seeking behavior and comparing it with traditional media.

4. Tools

This methodology was executed through a rigorous scientific process consisting of four primary phases, aligned with the Protocol for Qualitative Meta-Analysis standards:

Phase 1: Search Strategy and Scoping General search engines were bypassed in favor of systematic queries within leading academic databases, including Scopus, Web of Science, and EBSCO. This ensured a historical tracking of the model's evolution, covering a timeframe from 1995 to 2024, beginning with the original publication year of the Comprehensive Model of Information Seeking (CMIS) by Donohue and colleagues.

Phase 2: Inclusion and Exclusion Criteria To ensure the integrity of the qualitative sample, studies were included based on the following criteria:

- The study must explicitly review or apply the Comprehensive Model of Information Seeking (CMIS) by Johnson, Donohue, et al. (1995).
- The study must address research variables within the context of the digital environment or cyberspace.
- Purely quantitative studies that did not offer a critical or theoretical contribution to the model's concepts were excluded.

Phase 3: Conceptual Coding Strategy To move beyond a superficial reading of the literature, the study avoided descriptive summarization and instead applied a coding strategy designed to precisely deconstruct variables and identify their interaction mechanisms. This process followed a three-dimensional path:

- **Deductive Coding:** A coding guide was established based exclusively on the three foundational variables of the CMIS (Johnson, Donohue et al., 1995). Selected studies were then analyzed for the manifestation of these variables: Antecedents (user attributes such as demographics, beliefs, and prior experience), Information Carrier Characteristics (channels and sources in terms of utility and ease of use), and Information Seeking Actions (actual search behavior).
- **Inductive Coding:** As cyberspace introduces variables non-existent in 1995, an open reading of the studies was applied to extract "emergent codes" representing the digital environment. These included concepts such as algorithmic browsing, hyperlinking, digital information overload, and cross-platform social interaction.
- **Identification of Variable Interactions:** This central step links legacy model concepts with emergent digital concepts to pinpoint precise interaction points.

Phase 4: Critical Quality Assessment

To meet reliability requirements, selected studies were evaluated and categorized as having high or medium importance based on the depth of their theoretical engagement with the CMIS model and their intersection with other major models (such as Kuhlthau and Wilson).

5. Methodology

To address the knowledge gaps inherent in traditional narrative reviews and to satisfy the specific requirements of the research problem, this study adopts a Qualitative Meta-Analysis methodology, specifically utilizing the Thematic Synthesis approach. Unlike quantitative meta-analysis, which relies on the statistical processing of effect sizes, qualitative meta-analysis aims to aggregate, compare, and interpret concepts and theories extracted from previous studies to construct a more profound understanding of the phenomenon. (Timulak, 2009)

By following the Protocol for Qualitative Meta-Analysis and criteria, the study can perform a meta-analysis of the sample obtained, which includes nine studies.

Table N°1: Studies Included in the Qualitative Meta-Analysis (1995-2024) by Protocol

Subject and Description	Title and Referral Link
Adoption and review of the CMIS (Johnson, Donohue et al., 1995) integrated with Wilson's model. Qualitative theory building and literature review. Key Findings regarding the Model in Cyberspace: Demonstrates that information paths in the original model require the integration of digital social interaction concepts to suit interactive web platforms. Quality and Relevance Assessment: Very High, Provides an explicit integration of the Donohue model with the contemporary web environment.	Robson, A. and Robinson, L. (2013) Building on Models of Information Behaviour: Linking Information Seeking and Communication. Journal of Documentation, 69, 169-193. https://l1nq.com/v6i38v6
Synthesis of foundational information behavior theories Theoretical derivation. Key Findings regarding the Model in Cyberspace: Shows that the cyber environment challenges the simplified linear paths of 1990s models, requiring multi-dimensional networked models. Quality and Relevance Assessment: High, provides a comprehensive framework explaining the limitations of legacy models against digital hyperlinking.	Jeffryes, J. (2016). Introduction to Information Behaviour by Nigel Ford. Public & Access Services Quarterly, 12(3), 238–239. 99199https://sl1nk.com/plvjdqw
A survey of research on information seeking, needs, and behavior. Donald O. Case and Lisa M. Given. Bingley A Comparative analysis of the CMIS with Kuhlthau and Ellis models. Qualitative meta-synthesis. Key Findings regarding the Model in Cyberspace: Confirms that cyberspace altered the "Antecedents" variable; search in digital networks is now active and continuous rather than linear. Quality and Relevance Assessment:	Cole, C. (2016). Looking for information: A survey of research on information seeking, needs, and behavior (4th edition). Donald O. Case and Lisa M. Given. Bingley, UK: Emerald Group Publishing, 528. https://sl1nk.com/c0eyev3

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High, considered a globally significant reference for updating information behavior models.	
Critical evaluation of leading models, including Johnson & Donohue. Analytical critical review. Key Findings regarding the Model in Cyberspace: Concludes that the "Information Carrier" variable must expand to include modern algorithmic search engines. Quality and Relevance Assessment: High, published in a Scopus Q1 journal; provides direct epistemological evaluation.	Savolainen, R. (2016). Information seeking and searching strategies as plans and patterns of action: A conceptual analysis. Journal of Documentation, 72(6), 1154-1180. https://ln.run/b4KV1
Application of CMIS variables to digital platforms. Conceptual analysis. Key Findings regarding the Model in Cyberspace: Shows the digital environment increases the complexity of immediate source evaluation, adding a dimension not present in the 1995 model. Quality and Relevance Assessment: Medium, specifically focused on health information seeking behavior based on the model.	Zimmerman, M.S. and Shaw, G., Jr (2020), Health information seeking behaviour: a concept analysis. Health Info Libr J, 37: 173-191. https://doi.org/10.1111/hir.12287 https://11nq.com/lxvw5wk

Source: Prepared by the researchers.

5. Results and discussion

Information-seeking and retrieval process includes various fundamental phases that ultimately lead the audience to solve the problem they face. Among these stages is the Search for information sources, which has become increasingly complex due to the difficulty of understanding all the knowledge produced in this digital age. Due to the information explosion, this complexity makes accessing information require digital search skills. Therefore, users in the digital environment now face a new phase in their search process: the phase before searching for information sources. It encompasses exploring these sources, evaluating their potential to solve their problems, and determining the responsible parties and means to access them. These can be outlined as follows:

- Electronic Advertising: Product and service providers in the digital environment enhance their products through digital marketing and targeted advertisements. Due to advanced algorithms of digital media, ads reach users without the need for active searching, exemplifying the concept of a surplus economy. Hence, the audience obtains information about sponsored products and the problems they address.

- **Personal Communication:** Experiences are exchanged among users of the digital environment.
- **Exploratory Search:** occurs spontaneously while browsing social media platforms and search engines in the digital environment. Users face various specialized and general information and knowledge. This information can offer future solutions to problems, forming the basis for actual searches when users encounter issues.
- **Artificial Intelligence Assistance:** The fourth industrial revolution has produced several outputs, involving Open AI's ChatGPT program. This AI algorithm enables interaction and provides assistance and suggestions that help solve problems effectively.

A. Audience Nature

The world is currently in an era of digital transformation, characterized by significant technological advancements that affect all aspects of life, including media and society. Digital transformation is one of the most influential factors shaping the behavior of the digital generation. As society evolves, particularly with the development of new technologies (e.g., the advent of the internet), the concept of the audience has shifted. It has transformed from a static "receiver" of traditional and passive media to an active identity in the digital age. These interactive technologies have been pivotal in transitioning media users from passive consumers to active producers or those who reuse or share information within the network. This shift introduces a new communication process: production - dissemination - distribution/consumption - reproduction, moving away from a linear communication model. Ultimately, new media have made the audience more independent and blurred the boundaries between producer/sender and receiver.

These changes have changed the information-seeking steps from multiple and sequential phases to more concise and variable ones relying on several factors discussed in subsequent sections. For instance, in traditional environments, an information seeker might go through various interconnected stages, sometimes up to seven. However, in the digital world, this process is often condensed into simple and practical steps, such as quickly searching a platform like YouTube, collecting diverse information in terms of format and content (language, personalities, experiences, duration, etc.), and easily applying this retrieved information to solve specific problems. Sometimes, this process is even reduced

to a single phase: resorting to AI technology like ChatGPT, which handles all steps of the information-seeking process.

This new strategy, which accompanies the digital generation, simultaneously faces challenges and opens doors to opportunities. One of the most prominent challenges encountered by the digital generation is the overwhelming volume of available information and the difficulty in distinguishing between accurate and misleading content. At times, this generation falls into the trap of misinterpretation and misunderstanding. For example, attempting to match symptoms with a medical condition on health websites and applying medical solutions for a similar illness can lead to health problems. Additionally, there is the risk of encountering unreliable or incompetent sources, often referred to as "fake expert sources." The digital generation also struggles with filtering the vast amount of online information and assessing its credibility. With countless sources and websites, it is challenging for individuals to identify trustworthy ones. This situation necessitates the development of analytical and critical thinking skills to effectively differentiate between reliable and unreliable information.

B. Demographic Features:

Demographic features are shared by all users, such as gender, age, educational level, income, and profession. These traits play a crucial role in determining exposure to and use of particular media. For instance, males may engage with media differently from females, children differently from adults, and the wealthy differently from the poor. These considerations were relevant to traditional media, but are these determinants still valid in the digital environment? Is it true that men now use technology more effectively than women? Does the educational level obtained in traditional institutions still give individuals an edge? Do age, economic differences, and other factors limit our use of various technologies and the way we exchange and seek information through them? The purpose here is to raise more questions than to answer them.

According to our observations and beliefs, many of these traits have started to fade in the digital space when it comes to seeking information. Previous theories suggest that attributes such as gender, age, and education no longer significantly impact how we seek information through new media. This is evident in our current societies. For instance, in universities, females often excel in employing technology and retrieving information for their research, sometimes even more so than males. Similarly, the age factor that once separated those

knowledgeable about technology from those who were not has diminished, especially as we now live among individuals from four generations—Generations X, Y, Z, and Alpha (born from 1965 to the present)—all of whom were born and grew up in the era of technology. We now discuss the so-called "digital generation," individuals born and raised in the era of digital technologies and the Internet, who are adept at using these technologies from an early age. Members of this generation are characterized by high digital skills and a strong reliance on social media and smartphone applications for communication, learning, and entertainment. They are also known for their quick comprehension, ability to process large amounts of information, and preference for interactive learning through multimedia.

Hence, it is understood that other traits have emerged, affecting our information-seeking, including:

- **Information Literacy** includes the skills required for lifelong learning and problem-solving in the digital age. Currently, the criterion for differentiating between people is not just owning technological tools but their ability to employ them effectively. This includes using various sources like specialized digital platforms, portals, repositories, search engines, and AI applications. It also involves comprehending how to search these sources employing keywords, translating texts, and sharing information through emails, social media, and conferencing platforms.
- **Interest:** Regarded as a psychological driver dependent on focus and attention, the pursuit of information is fueled by a desire to learn and discover solutions to problems. This interest varies among individuals regardless of gender, age, or economic status, allowing information seekers to fulfill their desired results utilizing digital information sources.
- **Accompaniment:** It refers to continuous adaptation, learning, and staying constantly updated on several technological and digital developments that impact different types and forms of information and their sources, which are certainly in constant and continuous evolution. An excellent example is artificial intelligence technology, which produces various applications affecting many areas, such as video production and search platforms. This adaptability emphasizes the knowledge gap between those who keep up with these changes and those who do not.

C. Research Sources

The initial results of the theory, derived from testing its hypotheses, demonstrated that information seekers have three main types of sources. The first what is currently called traditional sources, primarily mass media (newspapers, magazines, radio, television, libraries, archives) and modern sources depending on the internet (websites, social media, blogs, repositories). The third source is personal communication (experts and specialists like doctors, professionals, and researchers), which, according to the theory at the time, information seekers would utilize relying on several factors, such as ease of access, ease of use, and the trustworthiness of the source.

Nowadays, especially among the last three generations, from Y to Alpha (ages 12-43), we see a dependence on a primary, almost singular source the internet. This transition has been facilitated by easy access to digital tools (low-cost devices like phones, tablets, and computers), the near-free internet connection in many countries, and simplicity of use.

Our assertion is supported by recent global statistics for this year, demonstrating that typical internet users have increased their online activity. In South Africa, users spend nearly 9.5 hours utilizing connected devices and services daily. Brazil ranks second with an average of 9 hours and 25 minutes daily, followed by the Philippines at 9 and 7 minutes daily (13).

Furthermore, a recent GWI survey demonstrates that internet users have reduced their TV watching time one of the most significant traditional media by 17 minutes over the past year, resulting in an 8.2% relative decrease in time spent watching broadcast and streaming TV content (14).

Given the previous data, it is evident that digital life has become dominant, imposing itself powerfully on individuals. Statistics indicate that people spend more than twice as much time connected to the internet, averaging **6 hours and 41 minutes** daily, compared to about **3 hours and 6 minutes** on TV. This involves utilizing social media, browsing digital content like books, listening to music, playing online games, and searching for information.

Moreover, it is significant to note that these reports may need to be more precise. The TV exposure statistics combined traditional **broadcasting** and online **streaming**, making TV a mere extension of mobile phones, containing several

entertainment, communication, and educational applications. Thus, its daily use reflects something other than the traditional television broadcasting experience.

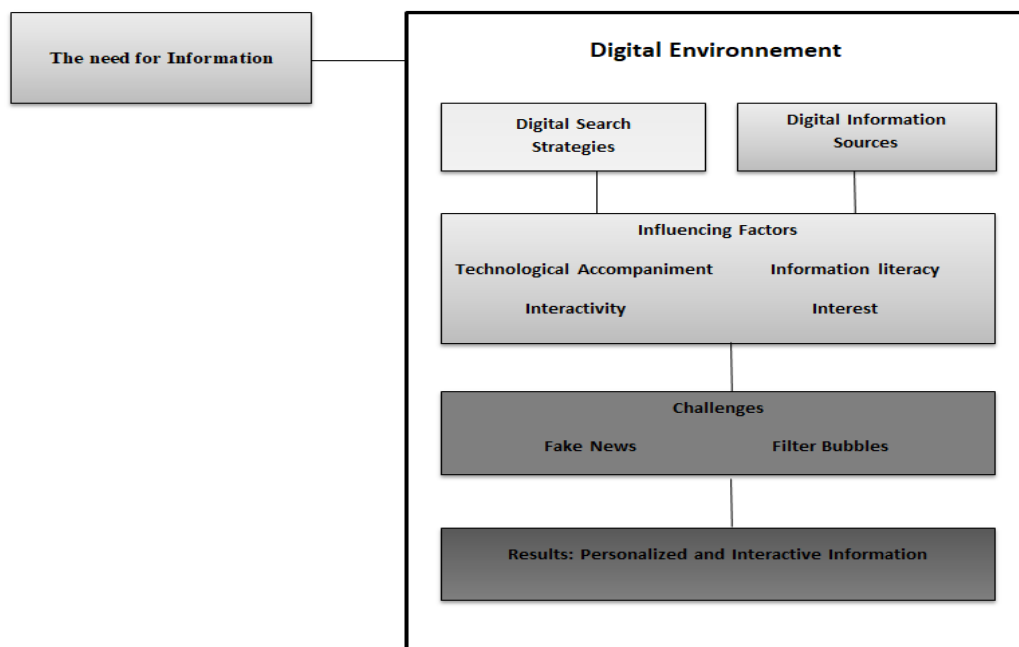
All these points emphasize an apparent preference for digital sources, with users favoring the internet's interactive nature. Social media enables users to take on multiple roles, such as creating, receiving, reproducing, contributing, sharing, commenting, and liking messages. This shift from the "spiral of silence experienced with traditional media to the spiral of expression," as described by Algerian researcher Kamal Hamido (2019) (15), marks a considerable shift in media consumption and information seeking.

D. Challenges of Information Seeking in the Digital Environment

The process of seeking information faces several difficulties and challenges in the digital environment, which we will attempt to introduce in the following points:

- **Filter Bubbles:** These refer to the algorithms behind social networks and search engines that categorize displayed content based on users' preference (16) This means that when an information seeker searches within the digital environment, the content is presented according to their inclinations. As a result, the user's chances of accessing information that may be more accurate and of higher quality for solving their problem are reduced.
- **Fake News:** Fake and misleading news spreads across digital networks, increasing the likelihood of encountering incorrect information on a particular issue. This can significantly impact how the public addresses the problems they face. This challenge is especially important when it comes to information related to laws, administrative procedures, and commercial advertisements.
- **Subjective Interpretations:** This difficulty refers to the public's behavior when seeking information, where they interpret information subjectively. This can result in various errors. For example, as previously mentioned, in the medical domain, the public might self-diagnose based on general information, posing a considerable risk and challenge.

Figure N°1: Diagram Summarizing the Previous Elements



Source: Prepared by the researchers.

- Elements of Information Seeking Theory from a Digital Environment Perspective:

Researchers who have theorized the Information Seeking Theory have determined several elements that contribute to comprehending the relationship between the audience and media in the realm of information searching and acquisition. However, with the advent of digital media, which is pervasive and limitless in time and space, there have been changes in audience communication behaviors, affecting numerous components of the theory. Based on a study by researchers (17) these changes are detailed as follows:

1. Levels of Audience Motivation for Information Seeking in the Digital Environment:

- **Technological Issue:** Due to the transition in communicative practices that now rely on digital technologies across social, political, and cultural domains, and the inherent complexity and rapid evolution of these technologies, the audience faces challenges in mastering these digital tools. This difficulty acts as a

problem that requires information seeking for self-learning and mastering digital skills, thus motivating individuals to seek information.

- Information Source Motivation: Producers of numerous digital applications and programs, as well as actors in digital electronic spaces, publish and advertise the services they provide, addressing problems that the audience might encounter in their daily lives, whether in utilizing digital technology or in routine issues.
- Self-Motivation: This is connected to the audience's desire to acquire new digital skills that help them adapt to the digital and social environment, thus fulfilling a role and status in society.

2. The theoretical literature on information-seeking highlights two key aspects of the search process:

The time available and the availability of information. The digital environment has a significant impact on both aspects. Regarding time, the digital environment is characterized by the speed of accessing information through global search engines connected to the internet, enabling users to retrieve information in a very short time. Concerning the availability of information, databases offer a vast amount of digital knowledge across various domains and disciplines. Thus, it is apparent that the digital environment serves as an effective support and facilitator of information-seeking behavior.

Risky Search: This concept relates to the audience's and users' ability to search within information sources they have previously utilized and found effective in solving problems, making these sources more secure and trustworthy for information seekers. The digital environment offers various elements that promote the safety and reliability of the search, including:

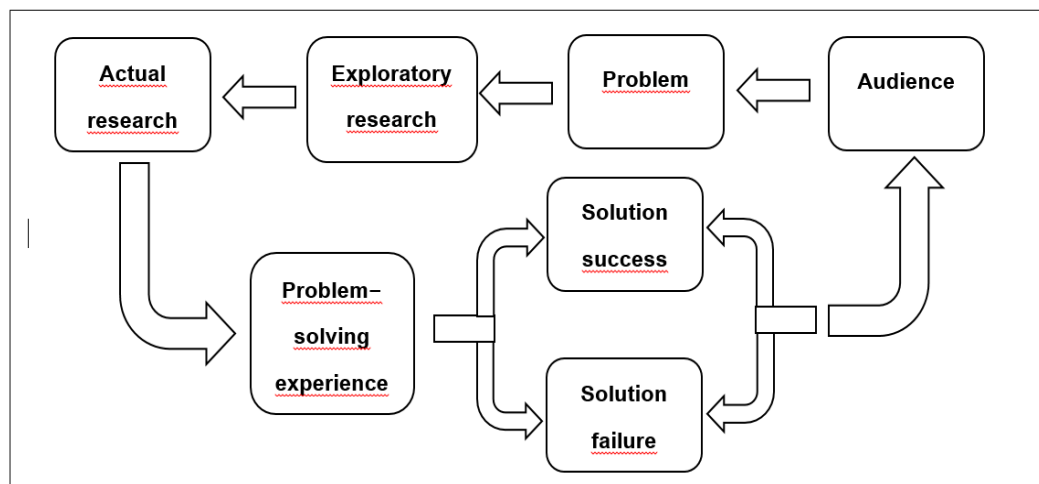
- The ability to review previous user feedback through digital platforms and spaces such as comments.
- Access to examples of previous interactions offered by the source.
- Searching for recommendations and suggestions from influential users.
- Verifying the credibility of the website or platform through its field link or the availability of contact information (phone number, address, digital communication channels) that can be employed to confirm its validity.

3. Forms of Information Sources Available to Information Seekers in the Digital Environment

The sources available for addressing public issues are varied and diverse, with the digital environment enabling users to access a wide range of sources. While the traditional division of information sources into official and unofficial categories remains relevant, the digital environment is distinguished by its ability to facilitate rapid and easy communication with these sources with minimal effort. The primary official and unofficial sources can be identified as follows:

- Official Sources: Specialized official pages, expert personalities' accounts, scientific articles, and news websites.
- Unofficial Sources: Experiences of others, friends' opinions on social media, personal blogs, podcasts.

Figure N°2: Conceptual Model of Information Seeking Theory in the Digital Environment



Source: Prepared by the researchers.

This model, developed by the researchers, illustrates the process of information-seeking in the digital environment. It outlines how the audience faces a problem, which prompts them to seek information. The process starts with exploratory searching across various available sources that might provide solutions, encompassing comments and recommendations from users in digital spaces. This is followed by a more targeted search to obtain the necessary information. Once the information is acquired, the seeker tests the proposed

solution to the problem based on the data obtained. The audience gains experience from this test, whether the solution succeeds or fails. After this experience, the information-seeking process begins anew to address any subsequent problems the audience may encounter.

6. Conclusion

In conclusion, the critical significance of updating and adapting communication theories to keep pace with the evolving reality is evident. The proposed conceptual model provides a comprehensive framework that bridges the gap between traditional theories and current challenges in the digital environment. It offers a holistic view considering complex interactions between individuals, technology, and the broader social context.

The practical recommendations from this study open up promising applications in research and education, promoting our ability to comprehend and guide information-seeking behaviors in complex digital environments.

However, the study also paves the way for further inquiries into other aspects of information-seeking theory and modern communication theories that necessitate updating and development. Future exploration could include:

- Investigating the effect of artificial intelligence and machine learning on information-seeking patterns and how to adapt the theory to these emerging technologies.
- Exploring the interplay between information-seeking theory and other communication theories, such as Uses and Gratifications Theory and Innovation Diffusion Theory, within the context of the digital environment.
- Studying the impacts of emerging technologies, such as augmented and virtual reality, on information-seeking processes and how to integrate them into the conceptual model.

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