Information Search Patterns of Information Science Students from TikTok and Twitter to Theory with an Ellis Lens

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Abstract

Advances in digital technology have changed the information-seeking behaviour of university students, especially Generation Z. Social media platforms such as TikTok and Twitter are now emerging as the main source of information, replacing the role of conventional media. This research aims to analyse the information seeking patterns of UPN Veteran Jakarta Information Science Study Program students through these two platforms using David Ellis' information seeking model as an analytical framework. This research uses a narrative qualitative approach with data collection through interviews and open-ended questionnaires distributed to students who actively use TikTok or Twitter as a source of information. The findings show that students follow almost all stages in Ellis' model - from the starting stage, which is often triggered by platform algorithms, followed by browsing and chaining, to the verification stage through mainstream media such as Kompas or Tempo. Although the use of social media tends to favour visual and instant content, students show awareness in filtering and verifying the information they consume. This research emphasises the importance of strengthening information literacy in the digital era so that students are able to optimise social media critically and reflectively as a means of learning and searching for information.

Keywords: Student, TikTok, Twitter, Ellis Theory

INTRODUCTION

The development of digital technology has brought major changes in people's lives, including in the way individuals access and search for information. In the midst of the fast-paced flow of information, Generation Z emerges as a generation that grows and develops with technological advances, according to Christiani & Ikasari (2020) they are also experts in operating various technological media (digital natives) and have a unique multi-tasking character that distinguishes them from previous generations. This is evidenced by this generation who tend to rely on digital devices and internet connections as part of their daily activities, including in fulfilling their information needs. Not only for entertainment, social media has also begun to be utilised as the main means of obtaining actual and relevant information (Nur E, 2021). An eMarketer survey (2024) noted that 46% of Generation Z prefers using social media over traditional search engines to find information, citing the speed and relevance of results. Meanwhile, the survey's GWI Core data found that 51% of them use social media to find information about brands or products, indicating a significant shift in information-seeking behaviour.

Changes in information search patterns are also directly reflected in the behaviour of students of the UPN Veteran Jakarta Information Science Study Program. As a newly established study programme in recent years, this department is predominantly populated by Generation Z students, especially the first batch until batch 2024. Students in this programme intensively engage with information, whether in the form of data, digital content, or knowledge management. Their academic tasks often demand the ability to find, evaluate and manage information systematically. Therefore, it is important to examine how Information Science students, who are in an all-digital environment and in an academic setting that demands high information literacy, utilise social media in the information search process. This is interesting because the emergence of this study programme itself is a response to the transformation of an increasingly digitalised era.

One concrete form of this phenomenon is the increasing use of platforms such as TikTok and Twitter by students, both in academic and social contexts. These two platforms are now the main choice in accessing news, opinions, and various other types of information, indirectly replacing the role of

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conventional media such as newspapers and online news portals. This is due to the characteristics of social media that present content quickly, visually, and easily accessible. However, behind this convenience, there are new challenges in terms of information validity. Information circulating on social media often does not go through a rigorous verification process, potentially spreading inaccurate or biased content (Arifah & Ashidiq, 2024). Although Generation Z has the ability to recognise false information, they tend to judge the credibility of information based on general opinion and influence from influencers, rather than through in-depth self-verification (Alvin, 2022).

In this context, theoretical approaches such as David Ellis' (1989) model of information seeking behaviour are used to understand the processes and stages that students go through in navigating digital information flows. Compared to other models such as Kuhlthau's, which focuses on the affective dimension, or Marchionini's, which emphasises a search-based interaction system, Ellis' model offers a more flexible and relevant approach to describe the non-linear information-seeking patterns that occur in social media use. The model includes eight stages that can take place out of sequence, in line with the behaviour of Gen Z who are often exposed to information spontaneously through social media algorithms. Using Ellis' theory as an analytical framework, this study aims to find out why students choose TikTok and Twitter as their main sources of information, analyse how they transform content from TikTok and Twitter into knowledge that can be studied or researched further, and identify students' information search patterns through the lens of Ellis' theory. Hopefully, the results of this study can contribute to the development of effective information literacy strategies, as well as raise awareness of the importance of information verification in the digital era.

LITERATURE REVIEW

To understand the information seeking patterns of students in this study, some relevant theories and concepts will be elaborated as the basis for analysis.

1. David Ellis' Information Search Theory Model (1989)

One of the most popular figures in information seeking is David Ellis. David Ellis is a researcher who developed a very influential model of information seeking behaviour. Ellis conducted research on scientists who were doing daily activities such as reading, conducting research in the field or laboratory, writing papers, and other scientific activities. From the results of this research, Ellis formulated a theory that describes information seeking behaviour in general through a series of stages or activity patterns (Hutapea et al., 2021). This theory was originally introduced in 1989. It was then refined through further works in 1993 and 2005. In his theory, Ellis identifies six to eight patterns of information seeking behaviour, namely:

a) Starting

Starting is the initial stage in the Information Search where it begins to identify and access initial sources. In this stage, Information Search can be done anywhere and anytime. It can be through teachers, libraries, even social media.

b) Chaining

Chaining is an activity by seeing and following references to quotes or links and other sources. In this stage, references can be obtained and journals, threads on social media such as twitter or even reading comments.

c) Browsing

Browsing is an activity in searching for information broadly without a specific purpose. In this stage, a person does not yet have structured questions or clear information needs, so they tend to be open to various types of information found during the exploration process.

d) Differentiating

Differentiating is a stage of a person's activity of filtering and comparing various sources of information that have been obtained with the aim of determining which ones are more relevant, stronger, and in accordance with information needs.

e) Monitoring

Monitoring is the stage of information seekers who actively monitor or follow certain information sources that are considered relevant, reliable and regularly provide new information. In this stage, information no longer starts from scratch, but rather focuses on maintaining contact with relevant information sources on an ongoing basis.

f) Extracting

Extracting is a stage where information seekers take and collect parts of informants that are considered the most relevant or useful from various sources that have been found.

Verifying

Verifying is the stage where the information seeker re-checks the accuracy of the information that has been obtained. This stage aims to check whether the data obtained is in accordance with the provisions and objectives of the information seeker, or is irrelevant.

g) Ending

Ending is the last stage in information search, in this stage, the information seeker stops the search activity because they feel that the information needed has been fulfilled.

2. Information Search Behaviour on Twitter

Twitter, now renamed X, is increasingly acting as one of the main platforms that students use to find and manage information. Through features such as threads, replies and retweets, the platform offers a clear structure for systematic exploration of topics, mirroring the chaining stage in Ellis' information retrieval model. Twitter provides various links and references that make it effective as a learning medium, users can follow the flow of information systematically through the interconnected thread feature. In addition, research by Rohr et al (2024) showed that Twitter is able to increase student interaction and engagement in an online learning context, enabling activities such as discussion, clarification of material, and real-time sharing of resources - also demonstrating the strengthening of the Browsing and Verifying stages.

In addition, Twitter favours the formation of academic communities and the rapid distribution of scientific content. According to a study by Llausàs (2023), the use of Twitter in academic contexts and conferences expands knowledge networks and accelerates the dissemination of new research, although it is still faced with the risk of information overload at the Differentiating stage. However, as found in the literature, the speed and verbal affordances of Twitter are not always accompanied by adequate verification. Some students tend to trust popular accounts or scientific influencers without checking further, so the Verifying stage in Ellis' model tends to be neglected when social context replaces academic validity.

3. Use of Tik-tok as an Information Source by Students

Tik Tok is a Chinese social network app and music video platform launched in September 2016 (Dewanta, 2020). This application was first developed by ByteDance, a Chinese technology company (Bahri et al., 2022). When viewed from the research data of Fatimah Kartini Bohang (2018), Tik Tok is the most downloaded application, namely 45.8 million times. This proves that TikTok is one of the means of disseminating fast and interesting information in today's digital era.

The TikTok app is a social media platform designed to allow users to create short videos between 15 and 60 seconds long. These videos can be personalised with a variety of creative features, such as music, filters, stickers, and other interactive elements that support content appeal (Lahooti et al., 2023). These features contribute to increasing the uniqueness of the content while facilitating the widespread dissemination of various types of content, ranging from entertainment, education, to information or hot news every day. This platform is also widely used by students as a medium to share information, channel their potential, and convey knowledge related to the world of lectures. Evidenced by the opinion of Abutalip et al. (2023), that TikTok users in Indonesia are dominated by millennials and students, who are demographically included in the Generation Z category. With this content, it is very helpful for students because they can collect information sharing in a light and interesting way.

4. Information Science Study Programme

The Information Science study programme is an interdisciplinary programme that studies how information is generated, managed, stored, accessed, used, and disseminated effectively. Students who study in this programme are equipped with an in-depth understanding of the information lifecycle and strategies to make information an important asset in decision-making and knowledge building. In its practice and study, Information Science applies theories, principles, and techniques from various disciplines, such as computer science, cognitive science, psychology, communication, economics and management, information systems, and library science.

Students in the Information Science study programme have an advantage in Information Literacy, which is the ability to find and use information effectively. Theoretically, they have a better ability to filter information cogently and reflectively. However, they are still part of the digital generation that grew up in an instant and visual culture. Tiktok and Twitter still have a significant influence in shaping students' information search patterns. Although they tend to be more conscious in applying stages such as Differentiating and Verifying, stages such as Starting, Browsing, and Chaining are still heavily influenced by algorithms and the dynamics of social interaction on these platforms.

METHOD

This research uses a qualitative approach with a descriptive narrative research type. This approach was chosen because the main objective of the research is to understand the stories and subjective experiences of Information Science students in searching for information from Tiktok and Twitter to theoretical sources, analysed through the lens of Ellis' information seeking behaviour. Informants were selected using purposive sampling, by choosing individuals who have experiences relevant to the research objectives such as active students who use Tiktok or Twitter to search for academic or general information. Data were collected through narrative interviews or open-ended questionnaires, with questions that explored the flow of information seeking starting from finding content on social media, how to collect it, to searching for trusted sources. The data were analysed using narrative analysis, starting from re-reading the stories, identifying patterns, categorising based on Ellis' eight stages of information seeking behaviour and compiling them in the form of narrative descriptions.

RESULT AND DISCUSSION

Data collection was carried out through the distribution of an online questionnaire (Google Form) filled out by 13 students of the Information Science Study Programme class of 2024, who are currently in the second semester. This number is a small portion of the total 116 students of the 2024 batch in the same department. Although the number of respondents does not meet the minimum standard of respondents in quantitative research, the selection of this sample is based on the assumption of similarity in academic activities between students, especially in terms of processing and searching for information as part of coursework. Therefore, these 13 respondents are considered to be sufficiently representative of the information search patterns commonly carried out by Information Science students in batch 2024.

Table 1. Student Activities when Using Social Media		
Indicator	Percentage (%)	Category
Looking for current news (hot news)	92.3%	Very frequently
Seeking entertainment	84.6%	Very frequently
Finding ideas or references (assignments, opinions, reviews, etc.	84.6%	Most frequently

Table 1 shows the variety of activities commonly carried out by students when using social media. The survey results of 92.3% show that the majority of students use social media to find the latest news or information that is relevant to academic needs or hot social issues, but it cannot be denied that their use as entertainment is also large, reaching 84.6%. This shows that most students state that they do not explicitly intend to search for information, but rather find it through TikTok's FYP algorithm or trending topics on Twitter/X. This is in accordance with the *Starting and Browsing* stages in David Ellis' theory, where information seeking often begins unconsciously from initial exposure to the system. From there, they proceed to explore similar content that appears on the platform, including reading comments, watching follow-up videos, or opening follow-up threads.

Table 2. Information Science Students' Favourite Information Media Sources for Information Seeking		
Indicator	Percentage (%)	Category
Twitter	53.8%	Very frequently
Instagram	23.1%	Very frequently
Tiktok	15.4%	Most frequently

Table 2 shows that Twitter is the platform most frequently used by students, followed by Instagram and Tiktok. The fact that currently exists, apart from for entertainment purposes, it turns out that social media occupies the top place as a source of information media compared to official news sites such as Kompas, CNN, and others which occupy the last place, namely only 7.7% of students who use it. It is surprising that official sites that are certain of their contents can be inferior to sources that are not certain of the quality of information, seen how as many as 53.8% of students chose Twitter and 15.4% for TikTok were chosen as sources of information that they often use. This reinforces that the algorithms of the two platforms play a major role in shaping students' information search patterns, namely becoming the dominant space in information consumption and search among students.

The information search process continues at the *Chaining and Differentiating* stages. Students follow threads of information from one content to another, for example from one Tiktok video to the creator's account or one tweet thread to a longer thread. The information gained from one video or tweet encourages them to open other accounts, read additional references, or even search the topic more broadly. *The Differentiating* process is found when they compare content from several accounts and choose content that is considered more credible through account authority such as the number of followers, account verification status, reputation and style of information delivery.

Table 3. Follow-up Action of Information Science Students after Getting Information from Social Media		
Indicator	Percentage (%)	Category
Conducting fact-checking	84.6%	Very frequently
Looking for similar information on other apps/sites	76.9%	Very frequently
Asking questions, engaging in discussions, and sharing	15.4%	Rarely

Table 3 is evidence that reinforces statements related to *Chaining and Differentiating,* namely as many as 76.9% will search for the same content / information but on different author accounts to different sites or applications. These actions indirectly make students form or build collections of information by consciously following accounts that they consider credible and can even subscribe to educational content or journalist/influencer accounts that are considered to regularly share relevant information, as a form of *monitoring*. The *Extracting* stage also occurs when students save videos, copy quotes, or make digital notes of information they consider important.

Table 4. Alternative Information Media Sources to Verify Information

Indicator	Percentage(%)	Category
Verified news websites	84.6%	Very frequently
Google Search	58.3%	Most Frequently
Twitter	30.8%	Occasionally

Table 4 shows a very visible difference here, media such as Kompas, Tempo, BBC, or other official news sites occupy a position that should be 84.6% as much as a recheck, compared to the results of their initial choice as a source of initial search for information. Although the process of verifying information (verifying) does not always occur as evidenced by the survey results that there are still 46.2% of students who do not double-check. However, 53.8% of students stated that after finding an issue on social media, they would ensure its accuracy through mainstream media such as Kompas, Tempo, BBC, or other official news sites. This verification is an important stage to ensure that the information they consume and share has passed a more rigorous validation process, this statement supports the results of the previous table, namely 84.6% of students do *fact-checking* after getting information. Search activities will end (ending) after the information sought is considered sufficient or has been found in a credible source.

This finding reinforces the relevance of Ellis' theory in the context of social media-based digital information seeking. The stages described by Ellis remain recognisable, although they take place in a more flexible flow and are heavily influenced by platform algorithms. The use of TikTok and Twitter allows the integration of entertainment information consumption with a more systematic information search process. In addition, UPNVJ Information Science students demonstrated an awareness of the importance of verification, which is crucial in addressing the risk of disinformation.

However, in the context of Generation Z growing up in a participatory digital culture, the *ending* stage in Ellis' model is not always the end point of the information seeking process. Instead, the information found is often the subject of further discussion on other platforms such as Twitter, discussion groups, or comment sections. This shows that the *ending* is no longer final, but rather opens up opportunities for exploration and social re-verification. Thus, Ellis' theory is still relevant, but needs to be understood in a more adaptive way to the dynamics of information seeking in the digital era which is iterative, open and participatory.

CONCLUSION

This study found that UPN Veteran Jakarta Information Science students actively use TikTok and Twitter as initial sources of information seeking. Both platforms were chosen because of their visually appealing presentation of information as well as the presence of a comment section that serves as an informal discussion space. Their information search process shows conformity with the eight stages in Ellis' theory, starting from the *starting* stage triggered by algorithms, to the *verifying* stage through credible media. However, along with the development of social media, the *ending* stage in Ellis' theory

has modified meaning, the *ending* stage in Ellis' theory does not always mark the end of the information search process as a whole. This is evidenced by Generation Z who tend to re-discuss information on the same or different digital platforms for re-assessment, which can even allow new information to emerge. But concerns will always be there, as social media has the potential to spread biased or unverified information. However, this possibility is not a concern, because the results of this study show that students make efforts to filter and double-check information with official sources such as Kompas or Tempo. This shows that, despite being influenced by the fast-paced digital culture, they still have a fairly good awareness of information literacy.

This research suggests the need to strengthen information literacy programmes in higher education, especially in the aspects of verification and assessment of source credibility. TikTok and Twitter can not only be a source of entertainment, but also an entry point for a broader learning process and knowledge enrichment if used reflectively.

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