Approaching information-seeking habits and their contextual features

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Abstract

Introduction. In information seeking, habits manifest themselves in the ways in which people repeatedly and regularly prefer and access certain sources of information. The present study reviews how researchers in diverse field have approached such habits and characterised their contextual features.

Method. Qualitative content analysis of a sample of seventy-three studies on the above topic. The research inductively identified three approaches to habits in information seeking and contextual factors affecting habitual information seeking.

Results. Many of the investigations on information-seeking habits approach them in terms of the frequency of information source use. Second, such habits are characterised in terms of information-seeking patterns. Third, the information practice approach directs the main attention to habits as integral constituents of people´s customary ways to seek access to information sources as a part of their daily routines. Information-seeking habits are influenced by contextual factors such as the time and place of information seeking, familiarity with information sources, and easy access to information.

Conclusion. Information-seeking habits offer familiar and often efficient ways to identify and access information sources. There is a need to explore further the nature of habitual information seeking by conducting longitudinal studies charting people´s ways and motives to prefer similar sources across situations.

Introduction

Habits occupy a significant though often an unnoticed role in daily life. The importance of habits was revealed in an empirical study examining the regularity of people´s everyday action (Wood, et al., 2002). The diary investigation in which the study participants recorded once per hour what they were thinking, feeling revealed that no less than 47% of participants' mundane activities were enacted almost daily and usually in the same location. Habits accounted for 54% of all media usage frequency such as watching TV, using the Internet and reading the newspaper. A more recent example of the force of habits is the finding of a survey showing that in 2018 in the UK, users on average checked their mobile phones once every 12 minutes during their waking hours (Wakefield, 2018).

Contemporary psychological research characterises habits as '*memory-based propensities to respond automatically to cues that led to performance of behaviour in the past*' (Verplanken and Orbell, 2022, p. 329). Such propensities derive from cue-response associations in memory that were acquired through repeatedly acting in response to those cues in a stable context. In general, habit refers to a cognitive construct that generates regularly repeated behaviour (Gardner and Lally, 2023, p. 494). Behaviour of this kind can also be referred to as *habitual behaviour*. In information behaviour research so far, the conceptual issues related to information-seeking habits (or habitual information seeking) have attracted only occasional interest. This is surprising because habits form an integral part of people´s familiar and often routine ways to seek, use and share information. Patrick Wilson (1977, pp. 36-37) was among the first to note that every individual has a '*habitualized monitoring system*' which is used to acquire information about conditions of activity, for example, state of health and weather. Later, Savolainen (1995) approached habits as integral elements of everyday life information seeking, manifesting themselves in the ways in which people routinely read newspapers and watch television news in certain times and in certain places. This suggests that information-seeking habits are

contextually sensitive phenomena. More recently, there are several empirical studies elucidating the features of information-seeking habits among diverse groups such as students and university faculty members (Barrett, 2005; Kumar and Prakash, 2011; Miller, et al., 2023a). In these studies, researchers have used diverse and partially overlapping terms such as information-seeking habit, information-searching habit, Internet habit, media habit and habitual information seeking. Empirical investigations have produced an abundance of observations about frequently used information sources. However, we lack an analytical picture about the diverse ways in which researchers have approached the information-seeking habits and their contextual features. The main goal of the present study is to fill this gap in research by conducting a qualitative content analysis of a sample of seventy-three studies on the topic. The findings elaborate the picture of habitual information seeking and elucidate the relevance of the construct of information-seeking habit for further research.

The rest of the article is structured as follows. First, to create background, the construct of habit is characterised by reviewing how researchers in diverse fields of study have approached it. Thereafter, the research questions are specified, and the methodology of the investigation is depicted, followed by the communication of the research findings. The last sections discuss the results and reflect their significance.

Literature review

There is no consensus among researchers about the definition of the concept of habit (De Houwer, 2019; Lizardo, 2021; Testa and Caruana, 2020; Venkatesh, et al., 2023). Philosophers have depicted the features of habit since the times of Ancient Greece. Aristotle put habit on a par with morality and virtue. Kant (1974, p. 28) considered habit as a '*physical inner necessitation to proceed in the same manner that one has proceeded until now*', while John Dewey (1922, p. 125) proclaimed that '*man is a creature of habit*'. William James was an early proponent of the habit construct. He suggested that habits possess motivational properties because they are '*the enormous*

flywheel of society, its most precious conservative agent. It alone is what keeps us all within the bound of ordinance' (James, 1890, p. 121). Relatedly, Grosz (2013, p. 219) characterizes habit as an '*anchor, the rock to which possibilities of personal identity are tethered*'. In a similar spirit, Crossley (2001, p. 115) suggests that '*habits root us in the world and in our situations of choice, providing us with the preferences, deliberative techniques, and the meaningful grasp of the world that makes choice possible*'.

In psychology, the approaches to habits differ regarding the degree to which they are conceptualised as factors triggering behaviour or behaviours of certain type. Gardner and Lally (2023, p. 490) offer an example of definitions that emphasises the nature of habits as triggers of behaviour. According to them, habit is '*the process by which a context-response association, learned through repeated behavioural performance in a specific context, triggers an impulse to enact the associated response upon exposure to context cues*'. One of the most often presented characterisations of the concept of habit represents the latter approach in that habits are understood as '*learned sequences of acts that have become automatic responses to specific cues and are functional in obtaining certain goals or end-states*' (Verplanken and Aarts, 1999, p. 104). Automaticity means that a behaviour does not involve the deliberation about whether to act. This characterisation is not without problems because everything done habitually is not necessarily done automatically; habitual behaviour also incorporates intentional (conscious) elements (Hornett, 2023, p. 547). Empirical studies have demonstrated that people with weak or no habits act on their intentions, whereas people with strong habits continue to respond at past performance levels seemingly regardless of their intentions (Wood and Neal, 2009, p. 581).

Despite the existence of differing definitions, many theoretical analyses have approached the construct of habit from an information-processing perspective. It suggests that habits as triggers of behaviour or modes of behaviour are guided by cognitive processing that is fast and easy, requiring minimal attention, and proceeds in parallel with other activities (Ouellette and Wood, 1998, p. 57). For example, when we go shopping in a familiar grocery store, habitual behaviour such as taking the shopping cart and walking through the aisles is not likely to be experienced as making choices, even when alternative courses of action are explicitly available. Having strong shopping habits means that little contextual information is considered, that there is little search for new information and thus little attention for alternative courses of action (Verplanken and Aarts, 1999, pp. 124-125). Habits thus go together with a cognitive orientation that makes an individual less attentive to new information and new courses of action and is characterised by a preference for relatively simple and heuristic-based choice rules. Often, habits are not particularly skilful but get to the point of being good enough to get the job done (Lizardo, 2020, p. 404). This is because habits may be flexible enough to adapt to changing conditions in each instance. High fluency of habitual behaviour is experienced as positive because it represents the path of least resistance (Wood and Neal, 2009, p. 589). People also prefer habitual behaviour because familiarity offers a '*well-trodden, vouchsafed route through a context*' (Hornett, 2023, p. 545). Other (untried and untested) options may be found as unsafe or risky in some regard. This implicates that habits inherently incorporate a conservative force; it motivates one to do only what one has done before. Habits provide a sort of default response unless an individual becomes motivated to engage in more deliberate goal pursuit (Wood and Rünger, 2016, p. 294).

The above characterisations suggest that habitual behaviour is a contextually sensitive phenomenon. Contextual factors also affect habitual information-seeking behaviour and information practices. First, spatio-temporal factors, that is, the place and time of information seeking influence where and when information sources are repeatedly identified and accessed (Savolainen, 2008, p. 52). Second, familiarity with information sources and easy access to them are contextual factors affecting the nature of information-seeking habits (Bauer, 2018; Portman and Veneti, 2022). Third,

there are other contextual factors influencing the ways in which people habitually seek information. For example, one's political values may affect the habitual selection of information sources (Cragun, 2022).

Habitual behaviour is not without problems because it can make an individual less attentive to alternative behavioural options. This tendency may also be reflected in information seeking among people with strong habits. To examine this issue, Aarts, et al. (1997; 1998) conducted experimental studies focusing on decision-making about daily travel modes. University students were asked to perform a multi-attribute travel mode judgment task dealing with four alternative travel modes: bicycle, bus, car or walking. The participants were confronted with the information display board from where they could gather information about attributes of alternatives in any amount and order they wanted, and eventually indicate their choice. The typical choice problem comprised an informational environment in which a set of choice options (walking, car, bicycle, bus) were described by values on a set of attributes (e.g., travel time, convenience, financial costs) in a matrix format (Aarts, et al., 1997, pp. 3-4). The findings demonstrated that strong habit individuals were more selective in using the information of the attributes of choice options than weak habit individuals. For example, participants with stronger habits to ride a bike searched for less information before making a choice, which most often was to bicycle (Aarts, et al., 1997). These participants predominantly gathered information about cycling, whereas weak-habit subjects divided their attention more evenly across other alternatives (Aarts, et al., 1998, p. 1365). More recently, Wood and Neal (2009) demonstrated that once a consumption habit has formed, future information processing heightens the value of habitual behaviour over alternatives. Consumers with habits were likely to engage in limited, confirmatory information searches about the shopping behaviour.

The conceptualisation of habitual phenomena is rendered more difficult in that the constructs of habit and routine are closely related. In general, practice can be defined as '*a routinized*

way in which bodies are moved, objects are handled, subjects are treated, things are described and the world is understood' (Reckwitz, 2002, p. 250). As key features of practices, routines can be understood as familiar action patterns that involve regularity and are likely to be performed daily (Ersche, et al., 2017, pp. 77-78). However, as Cohn and Lynch (2017, p. 1408) suggest, the ideas of habit and routine refer to subtly different things; while the locus of habit is considered the individual and the focus is placed on an individual's mental processes, in a routine the primary locus is the specific nature of an activity or practice. Routines have a relatively fixed temporal pattern of sequenced actions that are executed voluntarily to make daily life more orderly and efficient. Ersche, et al. (2017, p. 78) suggest that, although routines fall within the realm of habits, their inherent functionality and their strong link with a time frame, may explain why routines and habits are not synonymous. Habits only include those routine behaviours that are performed automatically without serving a specific purpose and are no longer restricted to a fixed temporal pattern. Habits, by contrast, extend beyond simple automatic reactions, involving complex patterns of behaviours that are performed repeatedly and relatively automatically with little variation.

Research questions and method

The review of literature suggests that habit is a cognitive construct explaining why people regularly repeat behaviours particularly in stable contexts. Habit can be conceptualised both as a trigger of such behaviour and a mode of repeated behaviour. In the present study, habit is understood broadly in the above meaning. As habits tend to be permeate all human behaviour, we may expect that they also manifest themselves in information seeking. The present study focuses on this phenomenon which is referred to henceforth as *information-seeking habit*. This construct covers habits as triggering factors generating repeated information-seeking behaviour or information-seeking practices, as well as the modes of such behaviours or practices. *Information behaviour* is generally defined as '*the totality of human*

behaviour in relation to sources and channels of information' (Wilson, 2000, p. 49). *Information practice* is referred to as '*a set of socially and culturally established ways to identify, seek, use, and share the information available in various sources*' (Savolainen, 2008, p. 2). Following Wilson (2000, p. 49), information seeking is approached a as construct that includes information searching as a subcomponent. Information seeking is generally understood as ways in which people identify, select and access information sources of diverse kind, while information searching refers to the identification, selection and accessing of information available in information systems such as libraries, databases, and networked resources of the Internet. The review of prior studies also suggests that, even though habits tend to be relatively stable, they can be affected by diverse factors, for example, a situation in which behaviour occurs. It is evident that similarly, information-seeking habits can be contextually sensitive, depending on the time and place of information seeking, for example. Drawing on the above characterisations, the present investigation seeks answers to the following questions:

- RQ1. In which ways have researchers approached information-seeking habits by characterising their conceptual and empirical features?

- RQ2. How have researchers characterised the contextual factors affecting the nature of information-seeking habits?

To answer the above questions, research material was searched from the following databases: Academic Search Ultimate (Ebsco), ACM Digital Library, Emerald, Google Scholar, Library & Information Science Collection (ProQuest), Scopus, Science Direct, Springer Link, Sage Journals Online, Taylor & Francis Online, and Wiley Online Library. The searches were directed to the abstracts of the documents, using the following queries and search terms: habit AND information seeking, habit AND information searching, routine AND information seeking, routine AND information searching, information-seeking habit, and information-searching habit. No phrase

searching and truncation was used in the search queries. The searches were limited to peer-reviewed studies written in English. Investigations of diverse types, for example, conceptual and empirical were included in the research material. No limitations were made regarding the publication year and field of the study, for example, information science, philosophy, and psychology. The data gathering was limited in that the searches were directed to abstracts containing words such as habit and routine. Therefore, it is possible that the searches did not identify all studies related to information-seeking habits. On the other hand, the probability of missing pertinent studies is small. We may expect that if information-seeking habits occupy a significant role in a study, this is also explained in the abstract. Most of the searches retrieved the same items from diverse databases, thus suggesting that the sample is saturated. Altogether ninety-four potentially relevant articles or book chapters published within the period of 1955-2023 were identified. After the preliminary reading, twenty-one items were excluded from further analysis because they appeared to be only tangentially relevant or out of scope. More specifically, in twelve studies out of twenty-one, terms such as information-seeking habit or information-seeking routine were mentioned only in the passing, without explaining their meaning. It also appeared that nine investigations out of twenty-one mentioned the term information-seeking habit but examined, in fact, another topic, for example, information literacy. Thus, after the exclusion of irrelevant items, the sample of seventy-three studies was downloaded and taken into a closer consideration. The studies were selected by two criteria. First, a study characterises information-seeking habits either conceptually or empirically (e.g., Barrett, 2005; Miller, et al., 2023a). Second, and alternatively, a study characterises the contextual factors affecting such habits (e.g., Cragun, 2022; Liu and Yang, 2004). Some of the studies met both criteria (e.g., Inman, et al., 2019; Savolainen, 1995). The seventy-three studies included in the final sample are listed in Appendix 1.

Since there was no theoretical framework available guiding how to examine the studies on information-seeking habits, an inductive research approach was deemed most appropriate for the present investigation. More specifically, the research material was scrutinised by means of inductive qualitative content analysis (Elo and Kyngäs, 2008). In general, content analysis is a method of analysing written, verbal or visual communication messages quantitatively or qualitatively (Krippendorff, 2019; Zhang and Wildemuth, 2016). Qualitative content analysis goes beyond merely counting words or extracting objective content from texts to examine meanings, themes and patterns that may be manifest or latent in a particular text.

The qualitative analysis of the content of the seventy-three studies was initiated by reading the downloaded research material twice. This yielded a preliminary picture of the ways in which researchers have approached phenomena related to information-seeking habits. Thereafter, following Elo and Kyngäs (2008, pp. 109-111), the research material was organized by the present author by means of open (inductive) coding. Open coding means that notes and keywords depicting the content were written in the text while reading it. More specifically, the reading was focused on text portions (paragraphs and sentences) explicitly referring to the terms *information-seeking habit*, *information-searching habit*, or related terms such as *information retrieving habit*. In addition, text portions depicting routine or habitual ways of seeking information were coded, as well as sentences and paragraphs describing contextual factors of information seeking of this kind. The coded material was then read through once again; if needed, new keywords were added to substantiate the open coding. Next, using the list of keywords such as information-seeking habit, information-seeking pattern and frequency of information seeking, the coding scheme was developed for the finalisation of the coding. It resulted in the identification of three general-level categories indicative of the approaches to information-seeking habits, relevant to RQ1, that is, (i) information-seeking habit as frequent use of information sources, (ii) information-seeking

habit as information-seeking pattern, and (iii) information-seeking habit as routinised information-seeking practice. In addition, relevant to RQ2, the general-level category of *contextual factors affecting information-seeking habits* and sub-categories such as *spatio-temporal factors*, *familiarity* and *easy accessibility* were identified from the research material.

The analysis was continued by drawing on the constant comparative approach (Lincoln and Guba, 1985, pp. 339-344). To achieve this, the similarities and differences within the above-mentioned categories were identified and scrutinised. More precisely, it was analysed how researchers have characterised, for example, frequency of information-seeking as an indication of information-seeking habit, or how they have examined daily routines of watching television news as manifestations of such habits. In addition, similarities and differences regarding the contextual factors affecting information-seeking habits were compared. The comparison was continued until no new interpretations about the nature of information-seeking habits and contextual factors affecting them were identified. This suggests that the qualitative content analysis of the sample of seventy-three studies offers a trustworthy qualitative picture of the ways in which information-seeking habits and their contextual features have been approached in studies conducted so far.

Findings

Approaches to information-seeking habits

Information-seeking habit as frequent use of information sources

The analysis of the research material revealed that researchers examining information-seeking habits have seldom explained the meaning of this concept. Usually, the studies lack reflection on whether such habits are cognitive constructs triggering repeated behaviour or whether habits are equated with behaviour of this kind. However, it appeared that in most cases, information-seeking habits were understood in the latter meaning. This is probably due to it being easier to capture

phenomena that are concrete in nature, for example, the frequent use of Google search engine, rather than to examine the abstract motivating factor (habit) behind it. For this reason, researchers have preferred the *frequency approach* in which information-seeking habits are examined by asking people to indicate how often they use information sources of diverse kind. Probably the earliest empirical study representing the frequency approach is a survey in which Lionberger (1955) surveyed how often farm operators in Missouri consult information sources of diverse types. Since that time, many of the empirical studies have adopted a similar approach which is fairly simplified. Information-seeking habit is equated with the frequency of accessing or consulting (using) an information source. Moreover, in such investigations, it is not uncommon the word *information-seeking habit* is mentioned only in the title of the study but the meaning of the concept is not explained in the text (e.g., Cain, et al., 2020; Engel, et al., 2011; Lambert, 2010; Miller et al., 2023a; 2023b). This suggests that in such investigations, information-seeking habit is taken as a self-explanatory concept, assuming that its meaning is obvious for anyone. Fortunately, despite the lack of the explanation of the key concept, the reader can infer from the empirical findings that such habits deal with how often the study participants seek access to individual information sources and use them for various purposes.

A more sophisticated version of the above approach is available in studies which explicitly define the concept of information-seeking habit in terms of frequent use of information sources. For example, Shipman, et al. (2015, p. 123) operationalised information-seeking habit in the above way, measured in a seven-point Likert scale. More recently, Arshad and Ameen (2019) offered a typical example of the frequency approach in a survey focusing on academic engineers' scholarly information-seeking habits. The findings indicate, for example, that the respondents' most frequently used information sources for scholarly tasks were e-journals, e-books, discussion with colleagues, and electronic research reports. An overwhelming majority of the respondents

(92%) were accessing articles through general search engines, most notably Google and Alta Vista either frequently or very frequently for their research and teaching tasks. Furthermore, most of the respondents (83%) were accessing e-journal articles through Google Scholar either frequently or very frequently. Finally, information-seeking habits manifested themselves in that 86% of the respondents made use of title words, while 67% employed keyword searching very often or always (Arshad and Ameen, 2019, pp. 6-7). To compare, in a survey focusing on information-seeking habits of health sciences faculty, Inman, et al. (2019) demonstrated that the respondents stayed current most often by scanning current issues of journals (92%), attending conferences (86%), or by following leads or references from an article or an item of interest (85%).

Information-seeking habit as information-seeking pattern

Different from the relatively straightforward frequency approach, researchers have characterised information-seeking habits in a more sophisticated way by identifying recurrent patterns of information seeking. In general, patterns can be understood as phenomena that happen or occur in the same regular and repeated way. Respectively, information-seeking habits are equated with patterns of regularly using the same information sources in similar ways. Different from the frequency approach depicting how often people use individual sources of information, the pattern approach focuses on the ways in which people in the same regular way prefer and use a combination of information sources of certain types, for example, human sources, libraries and search engines over a longer period.

A specifying aspect of the pattern approach to information-seeking habits is also that it devotes attention to reasons by which a combination of information sources is repeatedly preferred. The importance of this aspect is exemplified by Gorman´s (1990) early study examining the habitual ways in which theologians seek information. The information-seeking patterns indicative of information-seeking habits manifested themselves in the

regular browsing of library collections and heavy reliance on peer consultation. Such patterns were preferred, for example, because certain journals were available in library collection only and a colleague could provide invaluable advice to solve professional issues. Similarly, while reviewing the information seeking of engineers, health care professionals, and lawyers, Leckie, Pettigrew and Sylvain (1996, p, 164) approached the *information habits* of the above groups by analysing their information-seeking patterns, most notably, their source preferences and the criteria by which diverse sources are favoured.

Somewhat later, Barrett (2005) explored the information-seeking habits of humanist graduate students in terms of such patterns. The findings indicate that the study participants heavily emphasised the importance of primary sources. The information-seeking patterns were also indicative of tendencies to favour certain ways of information seeking. Many of the participants were comfortable with a *detective-like* approach to information seeking, involving browsing. In Barrett´s study, however, like many other investigations, the pattern approach did not appear in a pure form because his findings also are indicative of the frequency approach. Barrett found, for example, that the humanist students often utilised Internet search engines to find general information on a topic. More recently, in a comparative survey examining information-seeking habits among academic scientists, social scientists and humanists, Arshad and Ameen (2021) used the combination of the pattern and frequency approaches. On the one hand, the study identified *use patterns* of e-journals indicative of information-seeking habits. More specifically, the survey revealed that the academics of all disciplines made frequent use of e-journals for the purposes of teaching and instruction and keeping themselves updated of latest interests in their subjects. On the other hand, the pattern approach was substantiated by indicating the frequencies of most popular information sources. It appeared, for example, that all academics frequently accessed e-journal articles by searching Google and Alta Vista.

Information-seeking habit as routinised information-seeking practice

Information-seeking habits can be put into a broader context by approaching them as integral constituents of information practices. Different from the frequency and pattern approaches reviewed above, the main attention is not directed to how often or regularly an information-seeking activity appears but how it functions as a part of people´s daily practices. From this perspective, people´s daily routines are particularly important for the formation and maintenance of their information practices, including their specific instances such as information-seeking practice. Through this connection, routine (daily) activity becomes a significant feature of information-seeking habit. Said otherwise, information-seeking habit represents a routinised way to seek access to certain information sources or to be exposed to them.

Savolainen (1995) was among the first to approach information-seeking habits in the above meaning. The point of departure was the assumption that habits generating repeated information seeking originate from an individual´s way of life. In its most general sense, way of life refers to *order of things*, which is based on the choices that individuals more or less routinely make in everyday life. *'Things stand for various activities taking place in the daily life world, including not only job but also necessary reproductive tasks such as household care and voluntary activities (hobbies); order refers to preferences given to these activities'* (Savolainen, 1995, pp. 262-263). As order of things, one´s way of life incorporates many routinised choices affecting, for example, when and where to read newspapers and watch television news. Routinised choices and preferences of this kind may result in the formation of certain information-seeking habits. The habitual features are particularly relevant for seeking orienting information about daily events, as information of this kind flows from different media (Savolainen, 1995, p. 274). The routine, sometimes absent-minded watching of television news may be an example of this kind of habitual exposure to information.

Later, in an empirical study on information-seeking practices among environmental activists, Savolainen (2007) elaborated the empirical approach to information-seeking habits. The findings revealed that most of the participants had developed fairly well-established habits of monitoring everyday events through the media (Savolainen, 2007, pp. 1714-1717). One of the favourite habits appeared to be reading a newspaper at breakfast. However, some preferred to access the Internet as a part of the morning rituals to prepare themselves for the day, e.g., by checking the weather forecast. These habits were largely followed in an unreflecting way. Similarly, Lingel (2015) draws attention to habits as constituents of people´s everyday information practices in her study on urban newcomers living in New York. Different from Savolainen´s approach discussed above, Lingel (2015, pp. 1242-1243) considers habits as a lens for thinking of information practices as deliberate, intentional, and rooted in embodied mobility through space. The interviews of the urban newcomers indicated that they do not necessarily refer to these practices using the word habit, often using instead terms such as *routine* or '*now I always*' (Lingel, 2015, p. 1244), concluded that by examining the information practices through the lens of habit, two connotations of the term practice arise: familiarity as a practical set of objectives and the repeated practice needed to learn about the city. Habits were also articulated as taking shape within routines of everyday life, where the repetition of routine information practices was often necessary to test their efficacy.

Contextual features of information-seeking habits

Researchers have identified several contextual factors influencing on the nature of information-seeking habits. Of these factors, time and place of information seeking most clearly represent situational factors affecting the formation and maintenance of information-seeking habits. The importance of *spatio-temporal factors* is emphasised particularly in studies approaching information-seeking habit as routinised information practice. For example, watching television news may be very much part of the taken-for-granted seriality

and spatiality of everyday life, because broadcast schedules can markedly reproduce or define the structure of the household day. For example, watching television news at 8.30 p.m. in the living room refers to routine information practices occurring at '*ritual times*' and in '*ritual spaces*' (Savolainen, 2008, p. 52). This approach can also be identified when people visit the home page of a news outlet as part of their daily routine (Möller et al., 2020, p. 619). The underlying motivations are manifold, for example, to find out whether new relevant news has broken. This mode of news use is habitual and triggered by situational cues in multi-optional media environments during an online browsing session, for example.

A familiar spatio-temporal context of information seeking is often intertwined with *easy accessibility of information sources* as a contextual factor affecting the formation and maintenance of information-seeking habits. Portman and Veneti (2022) investigated the modern news consumption habits of students and their adoption of Twitter as a mainstream news outlet. The results suggest that convenience and personalisation are amongst the main drives behind choosing Twitter as a news source. Twitter was viewed as the most convenient news outlet by our interviewees, as it provides timely and accessible access to a plethora of information. Due to these advantages, checking news from Twitter may appear just as '*a natural instinct*', as one of the participants described her habitual information-seeking behaviour (Portman and Veneti, 2022, p. 59). Similarly, in a study on users' constant checking of digital devices as a form of habitual information-seeking behaviour, the accessibility of news content appeared to be particularly important (Gerlach and Cenfetelli, 2020). The study participants emphasised that today's information technologies make information so accessible that they can effortlessly engage in state-tracking anytime and anywhere. Given the omnipresence of connected devices that afford state-tracking, the participants reported a wide variety of occasions in which they repeatedly engaged in state-tracking, leading to habit formation in these contexts. Overall, the habit of constant (frequent) checking was motivated

by the fact that a digital device that offered access to individuals' preferred information sources that was immediately at hand (Gerlach and Cenfetelli, 2020, p. 1712). Constant checking thus exemplifies a behaviour that, by its nature, is prone to becoming hardwired, that is, habitual.

Closely related to easy and convenient accessibility of information, *familiarity with an information source* has also been demonstrated to be an important factor affecting the formation and maintenance of information-seeking habits. The importance of familiarity was emphasised particularly in studies approaching information-seeking habits as frequent use of information sources. This was observed by Fisher, et al. (2005) in a study on information grounds and information seeking among urban-rural residents. To investigate their information-seeking habits, the study was focused people's preferred or default ways of seeking everyday information. It appeared that the respondents most preferred someone with whom they have a strong relationship, that is, someone with whom they feel close, such as family and friends, or frequently consulted Websites. Familiarity was also a key contextual factor in studies drawing on the pattern approach. For example, Gorman (1990) demonstrated that theologians regularly prefer libraries and colleagues because they represent familiar options for information seeking. More recently, Bauer's (2018, pp. 6-7) ethnographic observations about business students' information-seeking habits demonstrated that the participants habitually use Google because they are very familiar using this search engine.

Information-seeking habits can also be affected by the perceived *content of information sources*, for example, their coverage and importance. Mussell and Croft (2013) found that among students habitually searching information, Google was favoured because it provides a broad overview of a topic. Inman, et al. (2019) investigated the information-seeking habits of health sciences faculty. The analysis of information-seeking habits showed that the

perceived importance of an information source or information-seeking channel affects the formation and maintenance of such habits. Most respondents (75%) indicated that the library was very important for conducting research in their field of health sciences. Most notably, scholarly journals (print or online) and internet resources (69%) were considered extremely important (87%), while electronic access to current journals was indicated as very important by 92% of those surveyed (Inman et al., 2019, pp. 136-137).

Finally, an individual's *socio-culturally formed beliefs* are contextual factors affecting the formation of habitual preferences for information sources. Cragun (2022) examined how rigid religious faith promotes selective exposure to attitude-congruent political information. When seeking political information, people are motivated to selectively seek information that is congruent with their prior attitudes. Therefore, in the United States, Republicans and conservative individuals are more likely to habitually read news stories from Fox News and to avoid stories from CNN and NPR, while Democrats and liberals are more likely to read items from CNN or NPR and to avoid Fox (Cragun, 2022, p. 1176). Motivated reasoning that supports one´s prior beliefs about gun control, for example, results in selective exposure to information. This can lead to the development of a habit of selective exposure, which might then be applied more broadly in other domains such as political information seeking.

Discussion

The present study contributed to information behaviour research by elaborating the nature of habits as a factor generating repeated information seeking. Based on qualitative content analysis of a sample of 73 studies on the topic, three main approaches to information-seeking habits were identified. In addition, the nature of contextual factors affecting the nature of information-seeking habits were reviewed. The main findings of the study are presented in Table 1.

RQ	Approach to information seeking habit	Examples of studies
Approaches to information-seeking habits (RQ1)	**Information-seeking habit as frequent use of information sources** - the frequency of information source use is indicative of the existence of an information-seeking habit - relatively simple and straightforward approach with low interest in the explication of the concept of information-seeking habit - empirical surveys have produced a lot of data about frequently used information sources among diverse groups of people	Arshad and Ameen (2019) Miller, et al. (2023a; 2023b) Robbins, et al. (2011) Shipman, et al. (2015)
	Information-seeking habit as information-seeking pattern - information-seeking pattern, that is, a set of the same information sources regularly preferred and used over a longer period is indicative of the existence of an information-seeking habit - empirical studies have mainly produced descriptive information about people´s source preferences - partially overlapping with the frequency approach	Arshad and Ameen (2021) Gorman (1990) Barrett (2005)
	Information-seeking habit as routinised information-seeking practice - information-seeking habit manifests itself in routinised information-seeking practice forming a part of people´s daily activities - emphasis on routine and context-specific access to information sources particularly in the seeking for orienting information - partially overlapping with the pattern approach	Lingel (2015) Savolainen (1995; 2007)
Contextual factors affecting information-seeking habits (RQ2)	Spatio-temporal factors (the place and time of information seeking) Easy and convenient accessibility of information sources Familiarity with information sources Relevant content of information sources Information source´s conformance to socio-culturally formed beliefs	Bauer (2018) Cragun (2022) Fisher, et al. (2005) Gerlach and Cenfetelli (2020) Inman, et al. (2019) Möller, et al. (2020) Portman and Veneti (2022) Savolainen (1995)

Table 1. The main findings of the study. Legend: RQ = research question

Approaching habits in terms of the frequency of behaviour represents a popular point of departure in psychology (Verplanken, 2006). Table 1 suggests that, in studies on information-seeking habits, the frequency approach is also common. This is probably because it offers a relatively simple way to capture the phenomena related to such habits. It is assumed that information-seeking habits manifest themselves in repeated ways of using information sources. For survey participants, this approach is relatively easy to capture because they only have to indicate how often they consult information sources of various kind. Empirical studies drawing on this approach have produced a lot of data about most frequently used information sources. Unsurprisingly, many of the findings indicate that people most frequently use Google while searching information. Nevertheless, the findings of frequency studies are potentially useful for the development of library services, for example, because frequent (habitual) consultation of certain source types signals their importance for the user. On the other hand, the empirical findings of frequency studies may remain disconnected. The results are difficult to cumulate into general findings about the nature of information-seeking habits because the frequency studies tend to have low

interest in the clarification of the conceptual meaning of the construct of information-seeking habit. The lack of deeper understanding of the nature of such habits may result in the empirical findings of frequency studies being useful only in a limited sense.

The information-seeking pattern approach opens a broader perspective on information-seeking habits in that the attention is not merely directed to how often an individual information source is used. It is assumed that information-seeking habits manifest themselves in the regularity in which the information sources or their combinations are preferred over a longer period. Thus, the pattern approach emphasises the continuity of information-seeking habits reflected in the repeated use of certain sources or the preference for certain ways of seeking information, for example, browsing the newest issues of journals. So far, the pattern approach has been used quite rarely in studies on information-seeking habits. Moreover, the pattern approach does not always appear in pure form because the information-seeking patterns as manifestations of information-seeking habits also indicate how frequently information sources are used.

Finally, the information practice approach suggests that information-seeking habits are integral constituents of people´s daily routines, that is, their normal daily programme or daily rhythms. Such habits manifest themselves in repeated access to certain information sources particularly for the purposes of seeking orienting information, for example, reading newspapers in the morning or watching television news in the evening. Thus, the practice approach emphasizes the nature of information-seeking habits as contextually sensitive phenomena. So far, there is a paucity of conceptual elaboration of habits of this kind from the perspective of the practice approach. Rare examples include Savolainen´s (1995) attempts to conceptualise information-seeking habits as constituents of way of life which is understood as meaningful order of things. This approach shares the basic idea of habits in the sense that they '*root us in the world and in our situations of choice, providing us with the preferences, deliberative techniques, and the meaningful grasp of the world that makes choice possible*' (Crossley, 2001, p. 115). As routines of information seeking imply the existence of certain patterns, that is, regularities in which information sources are accessed, the practice approach does not appear in pure form but partially overlaps with the pattern approach.

Table 1 also summarises the main findings concerning the contextual factors affecting the formation and maintenance of information-seeking habits. These factors are relevant for all three approaches to information-seeking habits, even though diverse approaches emphasise somewhat differently the importance of contextual factors of various kind. Spatio-temporal factors are mostly reviewed in studies drawing on the information practice approach while drawing attention to certain places and times of routinised information seeking (Savolainen, 1995). Temporal factors are particularly important in cases in which the time pressure makes people to draw on a habitual way to find information quickly from an information source, for example, using Googe search engine. Spatial factors affect information-seeking habits in that information sources are routinely accessed in certain places such as physical libraries (Gorman, 1990). However, with the growing use of networked sources accessible by means of mobile technologies, the significance of spatial factors has decreased.

Information-seeking habits are also influenced by factors dealing with the easy availability and accessibility of information sources. This is understandable because people prefer habits that tend to offer the path of least resistance (Wood and Neal, 2009, p. 589). Easy and convenient accessibility of information sources is often a prerequisite for the formation and maintenance of information-seeking habits. From the perspective of the frequency approach, easy and convenient accessibility makes it often understandable why people so often use Google search engine, for example. Familiarity with an information source is also a significant factor affecting information seeking habits. This contextual

factor is relevant to all three research approaches to information-seeking habits. As to habits more generally, this is understandable because familiarity offers a '*well-trodden, vouchsafed route through a context*', as Hornett (2023, p. 545) puts it. The formation and maintenance of information-seeking habits also require that information obtained from a source continually meets one´s expectations dealing with content quality. Similarly, due to its general nature, this contextual requirement is relevant to all three approaches to information-seeking habit. Finally, an information source´s conformance to socio-culturally formed beliefs is a contextual factor that can affect the formation and maintenance of information-seeking habits. This factor may determine how often an individual seeks access to an information source or whether he or she avoids it, as demonstrated by Cragun´s (2022) study on habits in political information seeking.

The findings of the present study offer some possibilities for comparative notions. One of them concerns the importance of information-seeking habits as a part of information-seeking behaviour. More than two decades ago, Dervin (1999, pp. 741-742) critiqued that many of the studies on information seeking emphasise its habitual and static features. However, as she aptly pointed out, habitual information seeking forms only a part of the ways in which people identify and access information sources. Dervin emphasised that information seeking can be both static and dynamic, sometimes even chaotic in nature. Nevertheless, as the findings of the present study suggest, information-seeking habits may occupy a more central role than formerly thought. This is because such habits significantly, though often in unnoticed (default) ways direct the ways in which people prefer information sources such as Google.

The findings of the present study also have implications for the elaboration of the related constructs of information-seeking behaviour. One of them is *information style* (Bawden and Robinson, 2011). Styles of this kind are indicative of individual differences in information behaviour, based on personality factors, as well as learning and thinking styles. Closely related, *cognitive styles* are relevant for the study of information-seeking habits. For example, *wholists*, who rely on analogy and associations, tend to try to amass as much information as possible by frequent searches with the aim to widen search concepts and obtain a good recall. In contrast, *serialists*, build their knowledge brick by brick, by establishing supporting detail and argument in small logical steps (Ford, et al. 1994). Cognitive propensities of this kind may make it understandable why people´s information-seeking habits may appear differently. We may think that wholists habitually favour browsing while serialists prefer systematic information searching.

Comparative notions can also be made by reviewing the typologies of information seekers and searchers. Palmer (1991) suggested that information searchers can be clustered into five groups, characterised by different personalities. For instance, *confident collectors* do not put much effort into conscious information seeking but try to keep an open mind for new information, while *hunters* develop their own strategies to cope with the information flow, for example, visiting the library every day. Typologies such as these are relevant in that they offer a general-level picture of how personality traits are connected to information-seeking strategies at the general level. The characterisations of searcher types could be elaborated by examining whether they exhibit information-seeking habits of certain kind, for example, manifesting themselves in the frequent and regular use of information sources. Conversely, we may ask whether the nature of information-seeking habits can be made more understandable using the type of information seeker as an explaining factor. Based on the analysis of empirical material gathered from the university students, Heinström (2005) identified three major types of information seekers. *Fast surfers* want information available quickly and easily, with the least possible effort. To compare, it is a characteristic of *broad scanners* that they engage in exhaustive and flexible information seeking from a wide range of sources. Finally, *deep divers* are quality-conscious and worked

hard to obtain high quality information. The above types are interesting from the perspective of information-seeking habits because the tendency to identify information sources and seek access to them is likely to remain the same across situations, although the way in which this tendency is expressed and how much it influences behaviour varies according to context (Heinström, 2005, p. 243). Thus, the types of information seekers may explain, at least partly, the individual differences in habitual information seeking.

Conclusion

The present study pioneered by offering an in-depth analysis of the construct of information-seeking habit. So far, researchers have approached such habits from three major viewpoints that are partially overlapping. The frequency approach assumes that such habits can be identified by surveying how often people use information sources. The pattern approach characterises information-seeking habits as manifestations of the regular use of a set of preferred sources over a longer period. Finally, the information practice approach examines habits as a constituent of people daily routines. As the findings are based on the qualitative analysis of the sample of seventy-three studies explicitly referring to the construct of information-seeking habit, the

research material excludes investigations that may implicitly deal with such habits in terms of frequent or regular use of information sources. All in all, the findings of the present study suggests that the construct of information-seeking habit needs further conceptual elaboration. This is reflected by the studies on this topic rarely making references to contributions of psychological research in this domain. This is unfortunate because it is evident that psychology offers elaborate conceptual tools for the analysis of habits and habitual behaviour (De Houwer, 2019; Wood and Rünger, 2016). In addition to conceptual elaboration of the construct of information-seeking habit, further empirical research is needed to find out how such habits manifest themselves in real-life information seeking in various contexts. To this end, longitudinal studies charting people´s ways to prefer similar sources across situations are particularly welcome. Studies of this kind would cast further light on the nature and role of habits in information seeking, thus deepening our understanding of the motives by which people repeatedly favour certain information sources.

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Appendix 1. Research material

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