

# Holistic information research: From rhetoric to paradigm

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## Abstract

Many researchers in library and information science have claimed that studies that are *holistic* are critical to understanding various phenomena. On closer examination, however, the term “holistic” is used mainly as a rhetorical device in the literature, rather than as one that embraces the epistemological tenets of a holistic paradigm, and applies these to research design. This paper examines this rhetorical use, and explores what it would mean, and why it would matter, to adopt substantively *holistic* approaches to research. We review relevant literature in library and information science to position past uses of *holistic* and compare these to the conceptual intentions of *holism*. We also outline the concept of *holism*, itself, with a focus on *methodological and ontological holism*, which can most deeply inform research design in our discipline. Greater methodological diversity, including much wider adoption of interpretivist and critical approaches, can address the concerns underlying the use of *holistic* rhetoric. We illustrate this central conceptual argument with a roadmap illustrating holistic considerations throughout the research process. The paper demonstrates that it is possible to shift away from predominantly rhetorical use of *holistic*, toward paradigmatically holistic research, which will provide for richer analyses of critical phenomena in the discipline.

## 1 | INTRODUCTION

*Holistic* is one of those terms that seems ubiquitous once we start noticing it, as it sees widespread use as a rhetorical device in library and information science research. What do researchers mean when we call for a *holistic* paradigm? What would it mean, and why would it matter, to adopt perspectives and approaches that are substantively *holistic*? The purpose of this paper is to examine these questions and to propose a new way forward in embracing this concept within the discipline. The term *holistic* has appeared in our literature for at least 45 years. However, this is the first paper to take this concept as its sole focus, exploring its use in research rhetoric to date and its potential as a future paradigm that could beneficially influence our discipline.

The concept of “paradigm” today is grounded in Kuhn’s *The Structure of Scientific Revolutions* (Kuhn,

1962), although he offers no straightforward definition of this concept. In fact, as elucidated by his contemporaries, Kuhn uses the term “paradigm” in at least 21 different ways (Bryant, 1975; Masterman, 1970). We find it useful to extend Bryant’s clear, concise definition of “paradigm” in order to understand a “paradigm shift” as a fundamental transformation in a field’s “*disciplinary matrix* of concepts, assumptions, basic laws, proven methods and other objects of commitment common to the practitioners of a particular discipline” (1975, p. 354). Exploring the example of *holistic*, as both a rhetorical device and as a potential research paradigm, is valuable in part because it illustrates how rare and difficult it is to make a paradigm shift. Our analysis illustrates that there is an extensive history of rhetorical calls for information science to become more holistic. These calls reach back decades, predating calls for a paradigm shift toward information ecology (Fidel, 2012; Marchionini, 2008; Nardi & O’Day, 2000) and a paradigm

shift toward user-centeredness (Dervin & Nilan, 1986). We argue that *holistic* rhetoric persists because it is symptomatic of an absence of paradigm shift in information science, where epistemological norms and research practices continue to revolve predominantly around quantitative approaches, positivist assumptions, and a systems focus.

Extending Kuhn's perspective, as expressed in *The Structure of Scientific Revolutions* (1962), the persistence of calls for *holistic* information research may point to a gap that is not yet considered an "anomaly worth concerted scrutiny [...] more than just another puzzle," by the broader information science community (p. 82). When concern with working holistically extends past rhetoric, and begins to incorporate a shift in assumptions and practices, this could begin to resemble "the transition to crisis and to extraordinary science" that paradigm shift requires (p. 82). Kuhn's work represents a rationalist "marketplace of ideas" approach that we do not adopt unproblematically, but his depiction of the revolutionary scale and unsettling effects of paradigm shift still ring true today. Kuhn argues that, as a result of paradigm shift, "the field will no longer look quite the same as it had earlier" (p. 83). Paradigm shifts are visible and apprehensible. By describing the gap between *holistic* rhetoric and practice, our analysis illuminates the metaphorical path that our discipline must take to embrace holism, a paradigm shift that would leave it substantially transformed. We agree with Kuhn on the point that such a transformation is an unsettling, but necessary and ultimately rewarding, part of our discipline's maturation.

To claim that a research project is *holistic* in its approach is to make reference to some form of *holism*. This theoretical construct is generally understood to mean that "the whole is different from the sum of the individual constituents" (Ratner, 2012, p. 514) or, as Aristotle more famously phrases it, "the whole is something beside the parts" (*Metaphysics*, book 8, section 6, trans. W.D. Ross). Researchers have been publishing study results, arguments, and models labeled as *holistic* for decades, across multiple subfields of library and information science. The term is used to emphasize the importance of appreciating, contending with, and responding to, systems, groups, and issues in their entirety. In this way, researchers' calls to be *holistic* in study designs parallel wider use of the term, which historically appears in arguments against atomistic, mechanistic views of existence, meaning, and explanation (Pancaldi, 2003).

What we are talking about when we use the term *holistic* is the longstanding struggle to recognize, understand, express, and explain complexity. Complexity is itself a core concept for information researchers; Bawden and Robinson (2015), having wrestled with it, conclude that "it is not possible to discuss complexity without

information concepts, nor is it possible to discuss information [...] without invoking ideas of complexity" (p. 2184). We use the term *complexity* to refer to the inherently high level of organization among the constituent parts of information-related phenomena, including information systems, social information behavior, and individual information experiences.

Despite the visibility of holistic rhetoric, scholars have not documented its uses within library and information science previously, or examined *holism* itself and its potential implications for our discipline. This paper offers such an examination, pursued in three ways. First, this paper reviews the predominant purposes of holistic rhetoric. Second, this paper illuminates methodological and ontological holism, the forms of holistic thought with the clearest relevance to our discipline. Third, this paper illustrates the paradigmatic potential of methodologically-holistic research designs by providing a roadmap for substantively holistic research design.

The larger backdrop for our analysis is the widespread atomization, mechanization, and reductionism underpinning present-day phenomena such as standardized testing, biometrics, biomedical analyses of human practices, the drive to publish highly cited academic papers, and the use of reductive approaches to evaluate research quality, such as journal impact factors. Examples are numerous, but Clarivate Analytics' influential *Highly Cited Researchers* list, which ranks researchers globally by a single metric—their production of highly-cited papers—is one prominent instantiation of reductionism, a paradigm that stands in opposition to holism. The makers of *Highly Cited Researchers* themselves acknowledge the list's limited framing of researcher success. They clarify that "there is no unique or universally agreed concept of what constitutes exceptional research performance and elite status in the sciences and social sciences" (Clarivate Analytics, 2019). Acknowledgments such as this one remain ineffective because they are made against this backdrop of predominantly reductionist ways of thinking. Efforts to encourage caution have not prevented metrics' integration into core institutional evaluation schemes, or the emergence of a casual equivalency between simple metrics and the more complex idea of impact. Decentering reductionist metrics would require changes to the institutional and ideological structures that rely upon them. In other words, more substantively holistic awareness and action would be required. Our discipline faces similar challenges. We argue that by becoming more aware of *holism*, researchers can move beyond rhetoric, and enact new thinking in library and information science about research design and implementation, as well as the ontological questions that shape our work. Like interpretivist social researchers Bevir and

Blakely (2018), we “[do] not call for wholesale rejections of current research and findings in the social sciences, but rather for gaining greater clarity about how to ground, understand, and explain the growing trove of knowledge about human beings and their societies” (p. 9). More specifically, this paper offers detailed ways to think through the meaning and uses of the term *holistic*, and to embrace more substantively holistic research practices at a paradigmatic level.

## 2 | THE RHETORICAL WORKINGS OF *HOLISTIC*

### 2.1 | Advocating for expansive ways of thinking

It is not uncommon for library and information science researchers to use the term *holistic*. And, this is not a recent trend. By examining the appearance of this term in the contents of the *Library and Information Science Source* and *Library and Information Science Abstracts* databases, we can see that the predominant purpose for which researchers use *holistic*, as a term for framing or persuasion, is to advocate for change. Researchers use *holistic* to call for changes to people's perspectives, to their conceptual understandings, and to their practices, including research practices. In other words, researchers use the term *holistic* as rhetoric, to “couch their words in particular and intentional ways so as to assert claims about epistemological positions, ontological observations, and methodological advocacy” (Budd, 2006, p. 221). In the section that follows, we review relevant, published literature to illustrate and interrogate the rhetorical intentions in researchers' writings.

One of the earliest appearances of the term *holistic* in the information science (IS) literature is used to support a call for fundamental conceptual change in the discipline, in Rosenberg's “The scientific premises of information science” (1974). Rosenberg extends Kuhn's *The Structure of Scientific Revolutions* in order to critique the “deterministic paradigm” and “mechanistic view of man” of mid-century information science (p. 265). He argues, “We must get out from behind the computer. A more holistic approach is needed. [...] We must begin to look at the interrelationships between various parts of the information environment” (p. 268). Rosenberg identifies the premises of contemporary information science, such as the assumption that “human information processing is ultimately mechanically reproducible and understandable,” not only as deterministic, but further, as “socially and politically pathogenic” (p. 267). Rosenberg is aware that he is arguing against predominant

ways of thinking—as he says, “I intend to stick my neck out” (p. 263)—but he may not have anticipated that researchers would carry on extending similar arguments throughout the intervening decades.

In calling for more *holistic* perspectives, researchers advocate for more expansive and inclusive ways of thinking about what is worthy of attention within our discipline. In looking at the literature of information behavior, for example, Dervin and Nilan's highly-cited review chapter addresses “the conceptualizations that drive the research” (1986, p. 3). In summarizing “traditional” and “alternative” paradigms, they call for more “wholistic views of experience,” to be contrasted with “atomistic,” systems-oriented research: “It is as if a still photograph were taken of a scene that would be more adequately portrayed by moving pictures” (p. 14). Like others who use the term *holistic* to draw attention to perspectival issues, Dervin and Nilan question what the focus of research should be (p. 15).

Recent and diverse examples reflect Dervin and Nilan's call to focus on “whole” persons and contexts. Kari and Hartel (2007) focus on the “neglected higher things in life,” meaning “pleasurable or profound phenomena, experiences, or activities that transcend the daily grind,” which have been “scarce” in the information science literature (p. 1131). They advocate for “an approach that aims at joining and integrating the two spheres [higher and lower things in life], and hence it may be named *holistic*” (p. 1136; emphasis original). Similarly, Lloyd and Olsson have reviewed their embodiment research, which exposes “the dynamic, embodied and corporeal sense making processes which are central to a holistic view of information practices,” and contributes to “a more holistic approach to understanding the relationship between people and information, that makes the body as information source visible” (Lloyd & Olsson, 2017, para. 5).

While some researchers use *holistic* to draw attention to underexamined aspects of experience, others use the term to label findings that show connections among elements traditionally conceptualized and examined as separate. An example of this is the division of human information behavior according to contexts such as work, school, and everyday life. Given (2002) and Huvila and Ahmad (2018) use *holistic* in reporting findings that illustrate the importance of traversing such divisions. Given, drawing on research with mature undergraduate students, argues that examining information behavior across multiple contexts enables a “holistic picture of individuals' informational activities” (2002, p. 28). Drawing on research with employees of a multinational corporation, Huvila and Ahmad (2018) conceptualize “holistic information behavior,” framing it as information behavior

that “cuts across contexts, is based on a broad exploitation of information from different contexts, and aims at general impact in terms of general understanding and self-development in the context of life-world rather than an individual task” (p. 20). A further example is the division of elements of human experience. Hoyte analyses the ascendant concept of “information experience,” arguing that the concept is holistic because it unites “perceptual, cognitive, and embodied experience” (Hoyte, 2019, p. 413).

While these examples are drawn from the information behavior literature, similar rhetorical uses of *holistic* (i.e., to argue for more expansive perspectives, approaches, and ways of understanding), are visible across the library and information science literature. Examples can be seen in studies on information retrieval (Hu et al., 2015), information security (Soomro, Shah, & Ahmen, 2015), cybersecurity (Atoum, Otoom, & Ali, 2014), digital libraries (Zhang, 2010), digital preservation (Rafferty & Pad, 2017), library services (Mojapelo & Dube, 2017), information literacy (Nazari & Webber, 2012), library collections development (Duncan & O’Gara, 2015), serials control (Haworth Editorial Submission, 1979), quantitative evaluation (White, 1977), library accessibility (Pionke, 2017), reference services (Scales, Turner-Rahman, & Hao, 2015), and critical librarianship (Espinal, Sutherland, & Roh, 2018). The use of *holistic* is motivated by different goals in these examples, from service enhancement to social justice, but the term’s rhetorical role remains consistent.

There is a third rhetorical role for *holistic*, which is to embellish arguments for greater attention to mindfulness, contemplation, and spirituality. For example, Latham, Hartel, and Gorichanaz (2020) describe a “holistic IS” that, in addition to examining people’s information practices, is also “*transformative*,” attendant to “spiritual growth, rich identity formation, and deep self-understanding” (p. 10, emphasis original). Going further, Block and Proctor (2020) draw on *The Yoga Sutras of Patañjali* and servant leadership to articulate a “new philosophical model of librarian-patron interaction,” which they name “holistic advocacy” (p. 550). This proposed form of library advocacy “places the one-on-one relationship between librarian and patron as the key to all progress,” in the belief that focusing on the one-on-one human relationship will naturally, organically expand to include advocacy at the institutional and professional levels. This new model actively prioritizes the individual needs of patrons and suggests that, as a result of that focus, advocacy will occur at all levels. There will be much more effective institutional and professional advocacy if there is advocacy for individual patrons first. (p. 551).

While Latham, Hartel, and Gorichanaz bring individual contemplative practice into detailed conversation with larger social structures (such as academic disciplines) and institutional contexts, Block and Proctor argue that centering individual experiences will “naturally, organically” improve institutions (p. 551). In proposing “holistic advocacy,” Block and Proctor assert that through self-development, librarians will come to inhabit the “vanguard of change in order to better serve patrons and, as an extension, humanity” (p. 555). As our description of holistic thought will make clear, research into individual experience, introspection, and transactional interactions is not inherently holistic. Inward-facing research is not holistic because it marginalizes or overlooks consideration of larger social structures and forces. Research such as Block and Proctor is limited by unwillingness or inability to discuss larger ideological implications of contemplation, placing focus and attention solely on self-improvement and internal elements of experience. Research framing human experience as separate from social context is not uncommon, given the predominant naturalistic paradigm of contemporary scholarship with its focus on “formalism, quantification, ahistorical analysis, and atomism” (Bevir & Blakely, 2018, p. 5). Such research can account for complexity, but its inward focus obscures or ignores larger social realities. As such, it cannot be described as holistic.

## 2.2 | Aspiring for epistemological and ontological alternatives

The term *holistic* has been used predominantly by library and information science researchers to call for changes that enable greater apprehension of, and accounting for, complexity. This is the case whether literature concerns human experience, systems, or institutions. The term *holistic*, appearing most often in arguments for doing things differently, conveys an aspiration for the growth of epistemological and ontological alternatives that have yet to be centered in our discipline. In this regard, researchers who use *holistic* rhetoric connect with others who use different approaches, in pursuit of the same aspiration. For example, Madsen (2016) uses discourse analysis to identify “the myth of the weak discipline” (p. 2698). Madsen charts how a traditional defense of information science as a “unitary discipline” fuels the entrenchment of theoretical boundaries, even as the discipline rhetorically formalizes itself as interdisciplinary (p. 2697). As Madsen notes, “permeable boundaries have traditionally been associated with weakness” in information science (p. 2699). These discursive conditions are context within which other researchers’ calls for *holistic*

changes can be understood as expansions of information science's "permeable and hospitable" identity, which exists in tension with the "unitary discipline" imperative (p. 2699).

Studies examining the prevalence of different research approaches also illuminate potential motivation for rhetorical calls for more *holistic* research. Reliance on reductionist approaches, applied under a positivist paradigm, not only limits explanations of human experience, but also fragments that experience into discrete factors that are described without necessarily being explained and contextualized. Positivism is a "package of philosophical ideas" generally including "a distrust of abstraction, a preference for observation unencumbered by too much theory, a commitment to the idea of a social science that is not vastly different from natural science, and a profound respect for quantification" (Paley, 2008, p. 646). Hjørland (2005) and Budd (1995) are among those who have analyzed positivist approaches within our discipline. Describing inter-indexer consistency studies as an example, Hjørland argues that "they are more interested in counting the number of agreements and disagreements that [sic] they are in understanding the nature and causes of such disagreements" (p. 149). Budd's critique is broader; he describes positivism as the "governing epistemology" of our discipline, whose "ascendance has resulted in both a philosophical stance and a mode of behavior" (1995, p. 295). Further, Budd argues that "the thinking within LIS should be more skeptical of methods and practices that purport to offer suggestions of causality based on the examination of limited variables or aspects of a phenomenon. That revised thinking should be [...] more holistic" (p. 315). In a discipline traditionally dominated by positivist approaches and a relatively small selection of methods, greater use of interpretivist and critical approaches is one of the clearest paths to the changes promoted with *holistic* rhetoric.

Signs that these changes are happening within our discipline are modest, but visible. Chu (2015) finds increasing methodological diversity in the *Journal of Documentation*, *Journal of the Association for Information Science and Technology*, and *Library and Information Science Research*. However, with the exception of *Journal of Documentation's* relatively high proportion of theoretical papers, the most frequently-used methods remain typically positivist in their orientation (e.g., questionnaires; content analyses). Kim and Jeong (2006), in studying the presence of theory in four library and information science journals between 1984 and 2003, find growth in theory development and use, which is visible in 41.4% of articles (p. 556). Kim and Jeong attribute this growth to "creative research work," but they do not document which theories and metatheories are prevalent (p. 560). Julien and

Duggan (2000) and Julien, Pecoskie, and Reed (2011) examine the information behavior literature, specifically, where interdisciplinarity and methodological diversity are growing, although survey methods continue to dominate.

There are studies that articulate and exemplify alternatives, such as those espousing interpretivist and critical approaches, which primarily use qualitative empirical and humanities-based methods. Unlike positivist approaches, which assume an objectively discoverable external reality, interpretivist approaches are underpinned by a belief that "the reality we know is socially constructed. Researchers therefore have access only to a socially constructed reality. None of us, including those who conduct research using the scientific method, has direct access to external reality" (Willis, 2007, p. 97). Interpretive research creates deep understanding of particular contexts and of people's experiences within them. More widespread adoption of interpretivist approaches would address the concern, expressed through *holistic* rhetoric, that common approaches, models, and understandings do not satisfactorily address the complexities of human contexts and experiences.

Hermeneutic phenomenology is one interpretivist alternative. Having critiqued positivism, Budd (1995) proposes hermeneutic phenomenology as a new "epistemological foundation" for our discipline (p. 304). In a later paper (Budd, 2005), he offers a broad conceptual analysis of phenomenology and its connections with library and information science. Capurro (2000), Hansson (2005), and Kelly (2016) provide parallel analyses of hermeneutics in relation to information seeking, information retrieval, and our discipline more generally. Hermeneutic phenomenology, drawing on these two philosophical traditions, is concerned with "attempts to understand the interpreted structures of experience and how we understand others and ourselves in the world around us" (VanScoy & Evenstad, 2015, p. 340). In other words, where other phenomenological traditions emphasize description of the *essence* of lived human experience, hermeneutic phenomenology acknowledges that reflecting on experience is interpretive. Hermeneutic phenomenology underpins methods such as interpretative phenomenological analysis (VanScoy & Evenstad, 2015), phenomenography (Limberg, 2000), and document phenomenology (Gorichanaz & Latham, 2016). These methods illustrate how researchers can contend with the complexity of human experience, a concern evident in *holistic* rhetoric.

Where interpretive approaches are concerned with the construction of meaning and experience, critical approaches "uncover and make obvious local examples

of broad truths” (Willis, 2007, p. 97). Critical approaches, such as the critical discourse analysis exemplified by Madsen (2016), assume the existence of social structures and the circulation of power, and work to expose and articulate these larger forces, as a precursor to change. Critical approaches are often paired with theoretical and conceptual methods, but they can underpin methods of all sorts, including the quantitative. For example, Berg (2018) describes the central role of critical quantitative analysis in her study of “whose voices and what types of knowledge are privileged” within a popular clinical health information source (p. 225). Berg, whose study combines textual and quantitative analysis, notes that in order to “better understand which voices were privileged and which were missing, it was [...] imperative to count, calculate, and compare” (p. 226). Madsen and Berg show ways to address the concern, expressed through *holistic* rhetoric, that research should expose and enable connections with larger social phenomena. Greater familiarity with the concept of holism can further address this concern, and also enhance the conceptual and critical strength of new work.

### 3 | HOLISM IS A “NOTORIOUS” CONCEPT

Holism is a difficult concept to review, succinctly, because it has been theorized extensively in multiple disciplines. The term itself is commonly credited to Jan Smuts, who coins it in his 1926 book *Holism and Evolution*, deriving it from the Greek *holos*, meaning “whole” (Smuts, 1926, p. 76). However, ideas that can be understood as holistic can be traced back to Aristotle, who in his *Metaphysics* expresses an early version of a familiar expression: “the whole,” he says, “is something beside the parts” (book 8, section 6, trans. W.D. Ross). Holistic philosophies have emerged in disciplines including linguistics, anthropology, sociology, and biology. This leads philosopher D.C. Phillips to note, “the difficulty of finding a clear statement of the central ideas of holism in the literature is notorious, and there is a corresponding difficulty in evaluating them” (Phillips, 1973, p. 2). Phillips’ appraisal holds up today.

Some schools of holistic thought, known as *confirmation holism* or *epistemological holism*, concern themselves with the nature and establishment of new knowledge. This holism carries the view that knowledge, and truth, cannot be discovered in discrete isolation; rather, they can only be identified through how they integrate with extant knowledge as a whole (Duhem, 1954; Quine, 1951). This sphere of holistic thought is most visible within the philosophy of science, and the natural

sciences. Holism is also present within semantics and the philosophy of language, with ideas known as *semantic holism*, *meaning holism*, and *content holism*. These holisms concern how meaning occurs within language and thought. Here, a holistic perspective holds that the meaning of a word emerges from its whole role in language (Fodor & Lepore, 1992).

Here, we focus on outlining *methodological and ontological holism*, the predominant forms of holism within the social sciences (Zahle & Collin, 2014, p. 2). Methodological holism primarily concerns beliefs about how human experiences, including social arrangements, can be explained and understood. Here, a holistic perspective is based first on a belief in the existence of social phenomena, not solely as aggregates of individual people’s choices, but as concepts with properties of their own (cf. Durkheim, 1951). This means believing that culture, social norms, and macrosocial arrangements such as capitalism have distinct characteristics, and even forms of agency. This belief is known as ontological holism. Where methodological holism emphasizes the centrality of social phenomena in explaining human activity, ontological holism emphasizes the *existence* of social phenomena. Zahle and Collin (2014) classify examples of social phenomena as such:

(a) social organizations, as exemplified by a nation, a firm, and a university; (b) statistical properties like the literacy or suicide rate of a group of individuals; (c) norms and rules as illustrated by the rule to drive to the right and the prohibition against sex with close family members; (d) cultures such as the Mayan culture; and (e) social structures as typically identified with one or several of the sorts of social phenomena already listed. (p. 3)

In library and information science, we are well familiar with the existence and power of social concepts. For example, we might consider a common explanatory sentiment such as “public libraries are busy these days, because of the slump in the economy.” This explanation is a thoroughly holistic claim, because it involves one social phenomena explaining another, with no reference to the actions of individual people (Zahle & Collin, 2014, p. 9). We can also consider examples of other social structures for which we are directly responsible, such as knowledge organization systems, which traditionally encode predominant cultural norms, and in turn contribute to the reproduction of these norms. While knowledge organization systems do rely on, and comprise, continuous exercise of individual choices, these systems have characteristics, implications, and power that transcend the choices of individual cataloguers, indexers, or searchers (Adler, 2016; Drabinski, 2013; Howard & Knowlton, 2018).

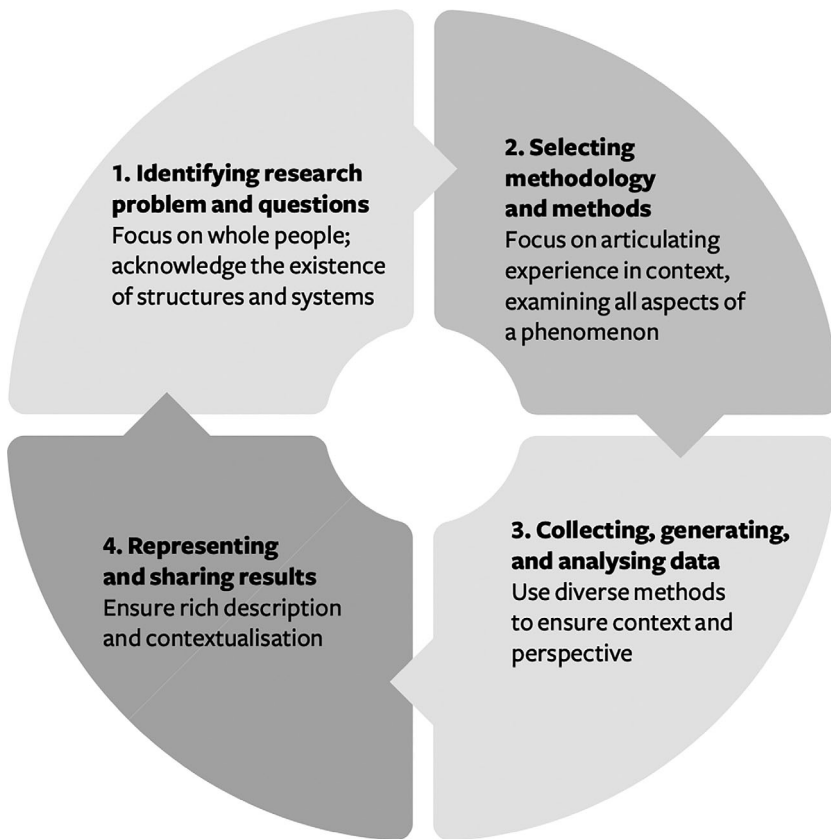
TABLE 1 Characteristics of holistic research design

Research design stages	Means and practices of holistic research design	An example study
Identifying the research problem	<ul style="list-style-type: none"> <li>• Focus on whole people rather than fragments of people or experiences</li> <li>• Explicit or implicit acknowledgment that structures and systems exist and have qualities beyond those of individuals</li> </ul>	<ul style="list-style-type: none"> <li>• It seems clear that COVID-19 is affecting people's information practices. Many people are dealing with heightened economic insecurity, and they may be navigating complex information systems, such as those required for participation in government financial assistance schemes, for the first time.</li> </ul>
Articulating research questions	<ul style="list-style-type: none"> <li>• Focus on articulating experience (i.e., an expansive approach), rather than measuring (i.e., a reductive approach)</li> </ul>	<ul style="list-style-type: none"> <li>• How do people describe their experiences of figuring out how to gain assistance during the pandemic?</li> <li>• What are people's information practices around pandemic-related financial information?</li> </ul>
Selecting methodology and methods	<ul style="list-style-type: none"> <li>• Choose methodology and methods that enable connections between individual experience and larger context</li> </ul>	<ul style="list-style-type: none"> <li>• Constructivist grounded theory</li> </ul>
Collecting and/or generating data	<ul style="list-style-type: none"> <li>• Maintain sensitivity to social structures and institutions, even when also focusing on individual experience</li> </ul>	<ul style="list-style-type: none"> <li>• A multi-method approach combining semi-structured interviews, think-aloud reflection on government websites, analysis of documents important to participants</li> </ul>
Analyzing data	<ul style="list-style-type: none"> <li>• Acknowledge the researcher's subjectivity</li> <li>• Focus on expressing complexity</li> </ul>	<ul style="list-style-type: none"> <li>• Identify information practices shared in common by participants</li> <li>• Articulate people's experiences of these practices: Affective, embodied, relational</li> <li>• Connect practices to institutional context, for example, government rollout of assistance</li> </ul>
Representing and sharing results	<ul style="list-style-type: none"> <li>• Findings are richly described and contextualized</li> </ul>	<ul style="list-style-type: none"> <li>• Informed by findings, make recommendations for improved provision of emergency financial assistance and related information</li> </ul>

Methodological holists hold that social phenomena have explanatory power, such as attributing an increase in the popularity of public libraries to a slump in the economy (Zahle, 2014). Today, there are few extreme purists on the holistic side of this debate, but there are multiple moderate stances, combining the holistic and individualist sides in some way (Zahle, 2016). For example, Coleman's model of "macro-micro-macro relations" argues that when one social phenomena is explained by another, this explanation must also include a central reference to an individual phenomena (Coleman, 1986, p. 1322). Following Coleman, we can say that a slump in the economy has restricted the disposable income that

some people enjoy. This restriction requires people to search for avenues for leisure and learning that rely less on out-of-pocket spending. This search on the part of numerous individuals, finally, leads to increased use of public libraries.

The opposite of *methodological holism* is the *methodological individualist* position that explanatory power resides solely with the choices, beliefs, actions, and characteristics of individual people (James, 1984). Hjørland, a critic of methodological individualism in our discipline, cites relevance research as an example, for its "tendency to psychologize criteria for what is relevant," adding "the cognitive view is related to positivism in its tendency



**FIGURE 1** Roadmap for holistic research design

toward methodological individualism” (Hjørland, 2005, p. 150). In other words, it is methodologically individualist to explain the complex process of relevancy decision-making by referring only to a person’s psychological qualities. Frohmann (1992) levies a similar critique through his identification of the discursive strategy of “radical individualism” (p. 375). He observes how, given the predominance of the cognitive viewpoint in our field, “social practices [...] are accessible to LIS theory only as causes of miniaturized effects in individual minds.” (p. 376).

Library and information science is a discipline rooted in studies of phenomena that are social, such as libraries, archives, systems of knowledge organization and information retrieval, and socially-situated norms of information behavior that we document and work to explain. Being rooted in social phenomena means that our discipline is to some extent fundamentally holistic, in that its very existence endorses the ontological weight of *structures*, beyond the sole agency of the individual. How, then, do library and information science researchers come to find it necessary to apply the label “holistic” to proposals for change and for new models and perspectives? As this paper illustrates, there is evidently a gap between the ubiquity of social phenomena, and the relatively rare use of social, structural, *holistic*,

*non-individualist* approaches to explaining, understanding, and influencing these phenomena.

#### 4 | WHERE SUBSTANTIVELY HOLISTIC APPROACHES CAN HELP

If it seems logical that the library and information science literature would display widespread holistic beliefs, this may be because the discipline revolves around social concepts, such as “library” and “information,” that are difficult to explain only as aggregations of individual actions. As we have demonstrated, individualist beliefs and approaches are apparent within the library and information science literature, and this contributes to the use of the term *holistic* for rhetorical purposes, in calls for approaches that better address complexity. Holistic rhetoric signals a disconnect between our espoused interests in social phenomena, and our predominant research approaches. When authors call for working or thinking “holistically,” they are calling for approaches that can contend with complexity. While respecting and responding to this call for change, we also emphasize the need to avoid fortifying positivist, reductionist impulses, such as aspiring to craft grand holistic models that objectively explain *all* possible complexity within any given



phenomenon. How, then, can we advise researchers to make more study design choices that embrace holism, substantively?

## 5 | A ROADMAP TO HOLISTIC INFORMATION RESEARCH

Information research that is paradigmatically holistic, beyond being rhetorically holistic, will share certain characteristics in common. Table 1 lists practices that characterize holistic research design, and describes an example of a holistic study from beginning to end. Figure 1 presents a roadmap to holistic design for information research.

Although these elements align well with qualitative research designs, it is worth noting that research can be qualitative, and even deeply interpretivist, without being holistic. For example, phenomenological studies that attempt to articulate pre-reflective lived experience, and which isolate personal experience from social or institutional forces, are not holistic. Studies with substantively holistic designs are able to contain, identify, and articulate broad, social, and critical findings. They highlight the socially-situated practices that span people's lives.

## 6 | CONCLUSION

We have reviewed the rhetorical uses of the term *holistic* within library and information science literature, outlined the concept of holism and its manifestations in methodological and ontological holism, and offered study design examples from ongoing research into everyday-life information practices. To conclude, we extend the following recommendations to make substantively holistic research more commonplace in our discipline.

One common purpose for holistic rhetoric is to call for more expansive and inclusive approaches. In this vein, we emphasize the importance of acknowledging the existence and functioning of social structures, which have properties and agency beyond those of individual people. We encourage greater methodological diversification. Particularly, we call for more widespread use of interpretivist qualitative approaches such as hermeneutical approaches and critical, humanities-informed approaches, which provide lenses with which to perceive and understand the presence and influence of power relations and social structures. We echo Julien et al.'s findings that the reliance on survey methods in the discipline is overdeveloped (Julien et al., 2011; Julien & Duggan, 2000), and we encourage researchers to follow Kim and Jeong's advice to engage in increasingly "creative research work" (2006, p. 560). We highlight the

critical librarianship movement, one of whose central tenets is that problems must be met with structural, not solely individual, solutions (Nicholson & Seale, 2018). We support inquiry into embodied information, which challenges traditional conceptualizations of "information" and, equally importantly, advances broader understanding of people's experiences, including their connections with the physical world (e.g., Cox, Griffin, & Hartel, 2017; Lueg, 2015; Polkinghorne, Given, & Carlson, 2017).

While library and information science researchers can do more in pursuit of substantially holistic research, we can also, in some ways, do less. We can do less by working to cease reductive, atomistic, mechanistic practices and framings of our work, our students, and our research concerns. As library and information science researchers engage with ideas such as boundaries, contexts, complexity, and intersectionality, greater familiarity with holism can enhance the conceptual strength of new research. It is possible to shift away from predominantly rhetorical use of *holistic*, toward meaningfully holistic priorities and perspectives in research.

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