Examining libraries as public sphere institutions:
Mapping questions, methods, theories, findings, and research gaps

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Abstract
It is common in the literature to see libraries characterized as public sphere institutions, but the exact processes by which libraries support and engage in the public sphere remain under-explored. Based on a systematic review of the research literature on libraries as public sphere institutions, this study maps the questions, methods, theories, and findings of those scholars and librarians who have examined this topic. This research finds that discussions of libraries as public sphere institutions orient around five themes: Community, management and funding, institutional structures and practices, new tools and services, and knowledge organization. Compared to existing research, more focused and stringent research designs are necessary to enhance the understanding of libraries as public sphere institutions. A focused research program can create theoretical and actionable knowledge for knowledge-based policies, strategies, and activities at the international, federal, state, and community levels.

1. Introduction

The digitization of documents and communication practices is a possible threat to the infrastructure of the public sphere, ranging from libraries, archives, and museums (LAMs) to what were hitherto known as the mass media, comprising newspapers, radio, and linear television (Larsen, 2018; Research Council of Norway, 2014). One, and possibly the main aim of public sphere institutions, is to provide an information infrastructure for the exchange and formation of public opinion, as freely as possible (Habermas, 1989; Larsen, 2018; Webster, 2014).

The concept of the public sphere is closely connected to Jürgen Habermas' study *The Structural Transformation of the Public Sphere* published in German in 1962, in Norwegian in 1971, and in English in 1989. The incorporation of public sphere theory into the Anglo-Saxon library and information science (LIS) discourse then largely began in the 1990s, (Buschman, 2006). Habermas' study is a historical-sociological account of the emergence, transformation, and decline of the bourgeois public sphere, "building its theoretical argument largely out of synthetic empirical discussions of Britain, France, and Germany between the seventeenth and early twentieth century" (Calhoun, 1992, pp. vii-viii).[1]

Against this background, knowledge on how public sphere institutions adapt to and operate in a setting characterized by digital technology, digital documents, and social media is crucial for the development of information organizations and policies, ranging from the practices of public library branches to federal information and cultural policies. A research-based systematic overview of key areas in the literature on this topic could help increase knowledge on the changing public sphere roles of LAM institutions in a digital environment. This knowledge could in turn inform policies and practices. The present study focuses on libraries as public sphere institutions. Future work should also examine archives and museums.

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[1] For an introduction to *The Structural Transformation of the Public Sphere* see Calhoun, 1992, pp. 1-48. This volume originated from a conference on the occasion of the English translation in September 1989 and contains a paper given by Habermas at the conference where he focuses on "newly relevant questions of the theory of democracy" (Habermas, 1992, p. 422). For a general introduction to this theoretical framework in the context of library and information science (LIS), see Buschman, 2006.

In any case, relevant literature is reviewed and their research themes, aims, and findings identified. Accordingly, this research clarifies the current status of research on libraries as public sphere institutions and contributes to building a platform for furthering empirical and theoretical research, as well as evidence-based practices and policy development.

1.1. Problem statement

The public sphere is a vital arena for critical public discourse and for the formation of public opinion—the ultimate foundation for democratic governance. According to German philosopher Jürgen Habermas, the public sphere is "first of all a realm of our social life in which something approaching public opinion can be formed" (Habermas, Lennox, and Lennox, 1974, p. 49). Public sphere arenas must fulfill three institutional criteria as best they can: status equality, a common ground for discussion, and universality of participation (Habermas, 1989). LAM-institutions, and especially public libraries, have been extensively theorized as such arenas (see, e.g., Widdersheim, 2015, 2017; Widdersheim and Koizumi, 2015, 2016, 2017a, 2017b). The specific arguments made about public libraries as public sphere institutions by previous authors in the literature are explored in the findings section below. The problem that this study addresses is a lack of connection between the empirical literature and the theoretical literature regarding the public library as a public sphere institution: Without this knowledge scholars and policy-makers are ill-prepared to support and bolster the public library as a vital public sphere institution. Research efforts employing state of the art methodologies focused on theory development and generalizable empirical findings and knowledge are required.

Preliminary database searches indicate a surge in documents published between 2015-2017. Nonetheless, initial searching suggests a shortage of conceptual development in this field. Hence, a systematic review of the peer-reviewed literature is required to identify research directions and theoretical ideas to unravel the challenges encountered by public libraries as public sphere institutions. How does existing research describe the functioning of libraries as public sphere institutions? This study has the following research aims: First, it examines and discusses the research themes, aims and findings, study types, and methods used in the research literature on libraries and the public sphere.[2] Second, it contributes to theory development on the role of libraries in the public sphere by identifying themes, in particular those needing further research, both conceptually and empirically. Specifically, this study identifies research gaps, novel topics, and research questions.

In particular, this study addresses the following questions:

RQ1: What themes and topics are most frequently addressed in studies of the relationship between libraries and the public sphere?
RQ2: To date, what types of studies have been conducted most frequently, theoretical/conceptual studies or empirical studies?
RQ3: What theoretical frameworks, research designs, and methodologies are used by the research?
RQ4: What are the future research possibilities identified by this research literature?

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[2] This study uses the concept of "public sphere" in the singular Habermasian sense as a common idealized political public arena (Habermas, 1989), based on its use by the authors of reviewed documents. This does not preclude the notion of a plurality of public spheres related to a plurality of contexts (Calhoun, 1992; Habermas, 1996, p. 374).

The mapping of libraries and public sphere research entails listing and discussing research topics, empirical and theoretical areas of research, research findings, and methodological approaches. Descriptive clusters of research themes in the reviewed material represent the status of existing research and point to gaps in the research within those clusters, as well as new research themes and topics.

2. Review methodology

This study provides a systematic overview of research themes, aims, and findings discussed in the literature on libraries and the public sphere and identifies research gaps that require either further empirical study or the development of new theoretical concepts. A systematic literature review is characterized by its use of formalized and scientific procedures, and it is comprehensive, unbiased, transparent, and replicable (Dixon-Woods et al., 2006). Literature reviews, particularly, qualitative systematic reviews, enable reviewers to provide critical interpretive analyses and are, in many ways, a routinization of the traditional author-based literature review (Dixon-Woods, 2011).

Qualitative reviews imply a "translation" between the findings and concepts developed in studies, which enables reviewers to compare findings and concepts for theoretical development, and apply the studies' findings to professional practices (Thomas & Harden, 2008). Although various review methods have been developed over the years, the choice of review methodology depends on the questions addressed in a review (Gough, 2015; Snilstveit, Oliver, & Vojtkova, 2012). In this review, a systematic analysis and review is used to describe the research conducted on the functioning of public libraries as public sphere institutions (Gough, Oliver, & Thomas, 2017). Using thematic analysis, we create a systematic map to provide a detailed description of the research topics (Thomas & Harden, 2008), that is, research aims and findings, found in the public sphere and libraries literature. Furthermore, a detailed critical interpretative analysis is required to identify research aims and findings, and to perform the thematic analysis. However, to ensure the credibility of results, it is crucial to perform qualitative reviews as systematically as possible by documenting comprehensive searches and transparent procedures. Another factor related to the methodological implications for this study is the state of the research field. The preliminary systematic literature searches indicated that the research field is small, divided, and immature in terms of the availability of empirical and theoretical studies and in the use of research methodology. To ensure that future research efforts on libraries and the public sphere become more focused, the state of fragmentation in this literature paradoxically requires a broad-based and inclusive thematic analysis approach.

3. Review procedures

To identify a wide spectrum of research themes on libraries and the public sphere, and given the possibly multidisciplinary nature of the research topic, an extensive search strategy was applied. An extensive range of both general and specialized databases were consulted. The databases Web of Science, Scopus, LISA, LISTA, DOAJ, Google Scholar, and WorldCat (Table 1) were consulted, and the search expression librar* AND "public sphere*" was used.

Insert Table 1

A topic search (including title, abstract, and keywords) was conducted in all databases except Google Scholar and WorldCat, where a topic search was not available and, hence, a title search was implemented. The search encompassed all the languages represented in the databases. To make the study as comprehensive as possible, it considered documents published during the period from the startup years of the databases through 2017. The study included peer-reviewed research articles and conference proceedings, as well as chapters in scientific anthologies and books.

The main criterion for inclusion in the screening processes was topical relevance, that is, whether the aims and findings of the research documents were related to libraries and the public sphere. Documents mentioning the public sphere and libraries only in passing, documents not providing a link between the two concepts, and documents not research-based, were excluded.[3] In addition, for inclusion, journal articles or papers in conference proceedings had to be peer-reviewed. Furthermore, the screening processes excluded literature reviews but included theoretical papers, book chapters, and books published by scientific publishers. These publishers were the 86 publishers ranked at the highest level (level 2) and 1556 publishers ranked level 1 in the Norwegian Register for Journals, Series, and Publishers (Norsk senter for forskningsdata, 2018).[4]

From the 249 documents that were initially identified (Table 1), 44 duplicates were excluded, resulting in a total 205 documents. The dataset was further refined through a two-stage process (Figure 1). The first screening process focused on titles and abstracts and screened these areas in the documents using the above criteria, resulting in a dataset of 34 documents, the second process screened the complete text of the documents and retained 19 journal articles, and 0 book chapters and books. All the selected documents were publications in English.

Insert Figure 1

Subsequently, a thorough inductive thematic content analysis was conducted with the final dataset (Krippendorff, 2012; Ritchie, Lewis, Nicholls, and Ormston, 2013), and manual coding was performed, as required, utilizing qualitative data analysis software (NVivo 12). The choice to utilize inductive analysis was made because of the fragmented nature of this field. A more focused theory-based coding would have been of less value, in terms of constructing a comprehensive map of the field, since it would have limited the number of possible findings considered. Two of the authors conducted the screening and coding processes independently of each other. Accordingly, they deliberated on a few cases before achieving consensus on the results.

The coding identified five content-based main research themes within the article pool. These themes, reflecting the research aims and findings of selected articles, were constructed from sub-themes identified in the coding process. The five main themes on the libraries and public sphere map correspond to different library and information science (LIS) research areas, suggesting that researchers of heterogeneous backgrounds work on understanding libraries as public sphere institutions.

[3] For example, if the document's main focus was not on libraries, but on reading and the history of reading, or if the article told a story of events at one specific library without any analysis, then it was excluded.
[4] The Norwegian Register for Scientific Journals, Series and Publishers is a comprehensive list with global coverage built on open criteria, and it is regularly updated (NSD, 2018).

4. Findings

The research aims and findings of selected documents were organized by grouping them by the research themes extracted during the analysis. This section provides a quantitative synopsis of the distribution of documents according to variables describing the status of research, such as discipline and field of research, publication name, publication year, publication country, author affiliation, paper type (theoretical or empirical), and methods used (Table 2).

Insert Table 2

It is noted that 14 out of 19 articles were published during the last decade, with 13 of these 14 being published during the past three years (2015–2017), which signifies a substantial increase in LIS researchers' interest on the public sphere. Only four of the 19 articles were published in journals outside the scope of LIS, which focused on other disciplines, including rhetoric, philosophy, and cultural studies. The majority of the articles (15) were published in LIS-related journals, a trend that was reflected in author affiliations. Furthermore, three of the LIS-related journals have published more than one article, which indicates a concentration around some conferences and journals. Only three authors are represented as authoring more than one article. Among the 19 documents, one examines a library type (a national library) that is different from public libraries. Widdersheim and Koizumi, as individual authors and coauthors, dominate this literature, having published seven articles altogether between 2015 and 2017. Further concentration is noted in article research themes: the authors with the greatest number of articles during the last years (2015-2017) are interested in institutional structures and practices. Among the 19 authors, 16 come from universities in North America (the United States) and Northern Europe (the United Kingdom, Denmark, Norway, and Sweden). The remaining three authors are from East Asia (Japan and Taiwan).

4.1. Research themes: aims and findings

By reviewing the use of public sphere theory in the selected articles, five themes emerged: community, management and funding, institutional structures and practices, new tools and services, and knowledge organization. The examples cited in Table 3 illustrate the process of developing categories based on the analysis of the articles.

Insert Table 3

4.1.1. Community

In an increasingly fragmented society, Aabø, Audunson, and Vårheim (2010) identified a "need for meeting places with the capacity to promote (a) social inclusion, and (b) that minimal degree of communality in values, norms, and bridging social capital that citizenship presupposes" (p. 16). They examined how public libraries were used as meeting places and how libraries functioned as instruments of social integration and dialogue. Their study comprised a quantitative survey of the population of three wards in Oslo, Norway.

The findings of the study by Aabø et al. (2010) indicate that public libraries were used for various types of meetings. In addition, 30 % of the library user respondents were involved

in traditional public sphere-related activities, such as authors' nights or learning about social issues at the library. Moreover, 28 % of the respondents had met strangers in the library, which reflects the libraries' potential as institutions for building social capital. Finally, the typical user of the library as a public sphere gateway is a person who is old, poor, a community activist, or trusts community institutions, according to this study.

Chen and Ke (2017) partially reused Aabø et al.'s (2010) research design in a study among library visitors conducted in Singag Library, Taiwan, and underscored the latter's findings on the importance of using public libraries as meeting places. The study by Chen and Ke also indicated a probable increase in bridging social capital among library visitors.

Ingraham (2015) conducted a qualitative case study, based on a content analysis of public documents, to develop a theoretical distinction between the concepts "citizen–consumer" and "public citizen" in describing library user behavior. This distinction encourages discourse on public libraries' role in the public sphere: Do libraries provide public citizens knowledge and tools to support their participation in the public sphere, or do they simply satisfy the demand for popular cultural consumption/experiences? Ingraham (2015) also explicitly refers to how addressing digital inequality expands the public sphere: "[T]he question is whether libraries should serve the needs of the socially excluded by providing access to digital technology" (p. 148).

Finally, Williamson (2000) emphasizes the importance of enabling socially excluded sectors of local communities to access the public sphere through digital media. In a conceptual paper based on Habermas' theory of the public sphere, Williamson discusses and distinguishes different aspects of the public library as they pertain to the public sphere, historically and in the present.

4.1.2. Knowledge organization

In their study, Andersen and Skouvig (2006) first discuss how knowledge organization theory and activities promote a functioning public sphere by supporting the integration of social science and political science perspectives (the article consults Habermas and Foucault) within the knowledge organization field of library and information science. Second, the authors examine "whether LIS perceives, researches, and teaches knowledge organization as a technical-managerial activity or as a social activity constituted by social and political discourses and their materialization in the public sphere" (Andersen & Skouvig, 2006, p. 316). Finally, the article concludes that the analysis contributed to broadening the field of knowledge organization research by demonstrating the importance of debate and sociopolitical contextualization in knowledge organization.

4.1.3. New tools and services

Barniskis (2016) examines how the new library services of makerspaces function as public sphere environments by promoting community building and shared enjoyment. She concludes that librarians that create makerspaces "reframed their own roles and the roles and functions of their libraries through ... new types of tools and participatory spaces" (p. 121). She describes librarians engaged in makerspaces as "diving into an unknown future, remaining idealistic and engaged with that unknown because they see a willingness to try new things as the rightful role of public libraries … these librarians plan a future that includes access to the tools of production and creative expression, and a public sphere that supports the creativity,

curiosity, and social engagement necessary for their communities to prosper" (p. 121). A key finding was that the least formally educated library directors and those who were least experienced in library administration were more willing to attempt new makerspace programming, thereby expanding access/use of the public sphere, compared to their relatively more experienced counterparts. This research suggests that makerspaces, as well as other new tools and services created by librarians, may contribute to community building, and thus to the continuation of the public library as a public sphere institution in the digital age.

Hull (2009) examined the consequences of new library services in terms of core values of intellectual freedom by examining how libraries grapple with the challenge of providing unfettered access to the Internet within their facilities. He showed how mandatory library filtering software censors the public sphere while having little impact on minors' access to pornography. The potential negative impact of filtering on the freedom of information and the free formation of opinion is far greater according to the author. The study analyzed legal documents and research literature and employed qualitative content-analysis.

4.1.4. Institutional structures and practices

Audunson and Evjen (2017) analyzed how Norwegian library legislation enables librarians to support the functioning of public libraries as formal venues of public debate. The study found that library directors continue to prioritize knowledge and information provision for developing reasoned public discourse. Library directors consider this knowledge/information provision role to be nearly as important as regularly holding public debates in libraries. In particular, librarians with alternative educational backgrounds emphasize the importance of developing knowledge organization competencies for increasing libraries' role in the public sphere. Library directors in larger municipalities considered their role as editors to be more important than their role as practical facilitators of public debates. Further, respondents ranked the development of patron digital skills considerably lower than knowledge provision, but higher than civic skills promotion through traditional channels. Data collection was performed through an online survey. This study reveals some of the attitudes of library directors regarding which of the functions of the library they see as most important to developing reasoned public discourse, and thus the public sphere.

Engström and Eckerdal (2017) examined the recent popular trend of keeping libraries open beyond normal business hours and in the absence of staff, concepts such as "open more" libraries and "self-service" in reading, and what users expect from such libraries and how their perceptions of libraries change. The study, comprising 10 semi-structured user interviews and eight participatory observations at four self-service Swedish libraries, discusses several factors affecting the self-service trend, such as digitization, fiscal austerity, and attracting new taxpayers to local communities.

Engström and Eckerdal (2017) concluded that "when used not as a means to lower costs [and not as a result of the new public management ideology], but instead as a way to offer better accessibility to their users, self-service libraries hold possibilities for strengthening public libraries' role as public and democratic spheres in society" (p. 157).

In six articles, Widdersheim and Koizumi developed a sophisticated conceptual model to analyze different aspects of public libraries functioning as public sphere institutions (Koizumi & Widdersheim, 2016; Widdersheim, 2015, 2017; Widdersheim & Koizumi, 2015, 2016, 2017a, 2017b). Two studies by Widdersheim and Koizumi (2016, 2017a) partially employ qualitative content analysis in historical studies of library reports to construct an elaborate theoretical model describing the public sphere in libraries, whereas their other papers are theoretical and based on literature reviews.

The main model applies and develops Habermas' concept of the public sphere for the future study of public libraries. The authors identify six dimensions of the public sphere, which are merged into three discourse themes or areas: governance and management; legitimation; and commons. The model has implications for library practice, since the authors state that it provides a focus for library planning and services. Widdersheim (2017) and Widdersheim and Koizumi (2016, 2017b) outline an agenda for future research applying and developing the model, for example, studies on the impact of a digital public sphere on, and the possible threats it poses to a working public sphere in public libraries.

4.1.5. Management and funding

By applying public sphere ideals, Buschman (2005) developed a theoretical argument that new public management (NPM)-based funding priorities on technology and community building services, rather than on physical buildings, collections, and traditional services, contributed to the decline of the public sphere role of public libraries.

Based on a study of the British Library, Harris (2008) revealed that the provision of digital, decentralized, and individual scholarly access to information resources depends on a centralized bureaucratic organization and economics of scale comparable to developments in higher education. Moreover, the management and franchising of digital rights involves the commercialization (commodification) of the public sphere.

Newman (2007) discussed the popular theory regarding how public libraries and the public sphere in Britain declined as a result of Thatcherism and NPM policies. In a fine-grained historical institutionalist analysis, she examined the development of new professional and institutional practices. Library management and librarians invoked shifting concepts of community to mediate neoliberal pressure by offering new services targeting "social problems," irrespective of whether they were caused by marketization and government cutbacks, or by governmental policies for social investment.

5. Discussion

These authors collectively examine how different facets of libraries engage in the public sphere (see Table 3). Those writing in the "community" theme consider how heterogeneous sectors of local communities engage in the public sphere using the library space. Those writing in the "knowledge organization" cluster consider how the behind-the-scenes technical services work done in libraries (i.e. cataloging) also constitutes a contribution to the public sphere. Authors discussing "new tools and services" consider how the library as a public sphere institution adapts by taking on new functions, such as providing makerspaces and providing unfiltered access to the Internet. Finally, the last two clusters consider the broader context for these activities, with authors writing in the "institutional structures and policies" cluster considering how local library policies contribute to shaping a library-based public sphere, and authors writing in the "management and funding" cluster considering how the funding context and funding priorities for libraries impacts their ability to serve as public sphere institutions.

An overview of the relevant literature reveals (see Table 2) that 10 of the 19 documents selected by this study were theoretical and conceptual articles (Andersen & Skouvig, 2006; Buschman, 2005; Koizumi & Widdersheim, 2016; Widdersheim, 2015, 2017; Widdersheim & Koizumi, 2015, 2016, 2017a, 2017b; Williamson, 2000), including two articles that added an empirical component (Widdersheim & Koizumi, 2016, 2017a). The remaining 9 articles

reported empirical studies (Aabø et al., 2010; Audunson & Evjen, 2017; Barniskis, 2016; Chen & Ke, 2017; Engström & Eckerdal, 2017; Harris, 2008; Hull, 2009; Ingraham, 2015; Newman, 2007). All the articles were published in the third millennium (2005–2017), and 13 were published in 2015 or later. Most of the journals that published the articles were journals of reasonable academic quality, and all except one are represented in the Web of Science index.

Three of the empirical papers employed quantitative methods (Aabø et al., 2010; Audunson & Evjen, 2017; Chen & Ke, 2017) and, among them, one (Audunson & Evjen, 2017) studied a representative nationwide sample. Further, qualitative content analysis of written documents and interviews/observations was found in the remaining six empirical papers (Barniskis, 2016; Engström & Eckerdal, 2017; Harris, 2008; Hull, 2009; Ingraham, 2015; Newman, 2007). All nine empirical papers, except one (Audunson & Evjen 2017), are case studies. However, most of them lack any explicit methodological reasoning for choosing the cases in question for analysis.

The empirical findings imply the positive role of libraries in serving as public meeting places and as community building spaces and, thereby, in the public sphere (Aabø et al., 2010; Chen & Ke, 2017; Engström & Eckerdal, 2017; Newman, 2007). Further, they reveal how libraries help reduce digital inequality and promote the public sphere participation of individuals (Barniskis, 2016; Ingraham, 2015) and discuss the effects of neoliberalism and NPM on strategies to develop the public sphere role of libraries (Engström & Eckerdal, 2017; Newman, 2007).

The reviewed theoretical papers were based on Habermas' theory of the public sphere in developing theoretical perspectives and frameworks pertaining to the changes in the libraries' role in the public sphere caused by social, economic, and technological developments. Surprisingly, none of the authors considered recent research on the public sphere. Further, they did not consider the existence of different, both weak and strong, public spheres, and the consequences of the development of digital public spheres for libraries. For instance, with the exception of Williamson (2000), the literature did not include substantive discussion of inclusion of marginalized populations in the library-based public sphere. This suggests additional research may be needed on libraries as public sphere institutions in multicultural, pluralistic, and stratified societies, expressing a plurality of public spheres.

Widdersheim is the only author discussing the association between Habermas' concept of the public sphere and public libraries as problematic because of its "temporal boundedness" and its "geographical location" in-between the private realm and the sphere of public authority (Widdersheim, 2017). The author proposes two strategies to address the problem: "The first acknowledges a multiplicity of public sphere conceptions, and the second suggests a revision of the substantive paradigm." (Widdersheim, 2017) As pointed out by the author, "[m]ore detailed, cautious, and empirically-based arguments are needed that describe the public sphere in public libraries in a non-illusory and non-ideological way" (Widdersheim, 2017). Perhaps surprisingly, none of the authors discussed public libraries as institutions with similarities to *Tischgesellschaften* (table societies), coffee houses or salons where private people could meet to discuss issues of common interest, aiming for a rational-critical debate where the best argument should succeed independently from a person's status and property.

While referring to the shortage of empirical research on the role of public libraries in the public sphere, Aabø et al. (2010) emphasized the need "to bring research beyond theoretical speculation" (p. 16). Similarly, Widdersheim and Koizumi (2016) concluded their literature review (which included both peer-reviewed and non-peer-reviewed articles, books, and book

chapters) about the public sphere in the literature on public libraries as follows: "Aabø et al. (2010) and Newman (2007) base their analyses on empirical data, and four articles out of nine retrieved are peer-reviewed. As a result of this review, we concluded that there is not yet a clear and comprehensive model of the public sphere in public libraries that speaks to all of its dimensions and explains how they interrelate" (2016, p. 596).

Based on the number of papers published after 2010 and, particularly after 2015, the situation described by Widdersheim and Koizumi (2016) has improved to some extent. Since 2010, the publishing of theoretical articles has continued to increase in volume. Further, the depiction of libraries' public sphere role in the literature has improved after 2016, when Widdersheim and Koizumi developed a unified theoretical framework for research on the libraries' public sphere role and their contribution to the public sphere theory, in general.

5.1 Research strategy: lack of clarity regarding theoretical import

As mentioned earlier, five qualitative and two quantitative empirical studies relevant to the current discussion have been published since 2010. Among the quantitative studies, only the study by Audunson and Evjen (2017) has statistically generalizable findings. The qualitative studies provide valuable knowledge on individual cases. They could contribute to theory development by serving as the basis for formulating new research propositions and hypotheses for further research. Through 2017, case studies on public libraries and the public sphere did not place – and were probably not intended to place – their findings in a theoretical and empirical context for theoretical generalization (Bennett & Elman, 2006; Yin, 1989). Today, the need for theory-driven empirical research is as strong as it was in 2010. The application of stringent research designs is necessary to increase knowledge production in libraries and public sphere research. The lack of ambition regarding the clarification of the theoretical impact of empirical findings ultimately results in the limited usefulness of these results in practical applications beyond the cases studied, and certainly fails the ambition and expectations of actionable knowledge applicable outside the individual cases studied.

Building on theory development in the library field and in other disciplines, theoretically-based empirical studies investigating the broad range of activities that expand our understanding of public libraries and their public sphere roles are needed. An empirical map of what is happening in public libraries and in their communities is needed to understand how the roles of public libraries as public sphere institutions change in the increasingly digital society. Barniskis (2016) shows librarians, and in particular those without formal library education, developing new services, and even new missions, focused on collaborative making and creating in the library. This work bears similarity to the work of Lenstra (2017) on the provision of physical activity programs in libraries, and in particular, the finding that the principal impact of these programs was "community building" (p. 215). Whether collaboratively creating something in a makerspace or moving together in a fitness class, people appear to be engaging with libraries in new ways.

Others have criticized these types of new services as detracting from the more traditional public sphere functions of libraries (Audunson and Evjen, 2017; Buschman, 2005). How these new services relate to how the public library operates as a public sphere institution in the digital age requires further analysis. The absence of a more cohesive body of literature focused on understanding the roles of libraries in the public sphere makes settling these debates

difficult if not impossible. Some argue that libraries need to strike out in radically new directions to maintain their roles as public sphere institutions while others argue that libraries need to stick to the historical functions of knowledge/information provision in order to continue contributing to the public sphere. Absent more theory development, these debates, which have significant real-world practical implications, remain unsettled.

5.2. Research questions revisited

The research question RQ1 addresses the research themes that are most frequently addressed in the literature on libraries and the public sphere. Accordingly, five major thematic research areas were identified: community, knowledge organization, new tools and services, institutional structures and practices, and management and funding (Table 3). Among them, institutional structures and practices occur most frequently, in nine documents; however, only three authors refer to this theme. Three themes, community (four papers), management and funding (three papers), and new tools and services (two papers), are represented almost evenly in the literature, whereas only one document is on knowledge organization.

With respect to RQ2, whereas 10 studies report empirical research, nine are theoretical/conceptual articles. Three empirical studies employ quantitative methods, whereas the remaining six apply qualitative content analyses on nearly equal numbers of documents and interviews (RQ3). The theoretical papers are overwhelmingly based on Habermas' concept of the public sphere (Habermas, 1989). This tendency is less obvious in empirical articles.

It is noted that 16 of the 19 authors are from American, British, and Scandinavian universities. Probably, there are historical reasons for this concentration; however, this nearly total dominance of U.S. and Anglo-Scandinavian authors in the research field is surprising.

The mapping of the research literature on libraries and the public sphere reveals the field is very limited with respect to research output. This finding implies numerous research gaps and questions. Current studies located in the five main thematic fields identified in this review comprise a starting point for further research.

Compared to existing research, more focused and stringent research designs are necessary to enhance knowledge production on libraries in public sphere research, and its application in, and usefulness for, the LAM field more generally (RQ4). A focused research program could create theoretical and actionable knowledge for knowledge-based policies, strategies, and activities at the federal, state, and community levels.

5.3 Limitations.

The choice of search terms and databases, affected the outcomes of this study. Utilizing translations of the term "public sphere" and "library," such as the original German "Öffentlichkeit" or "biblio*"–the common prefix for the word "library" in many other Western languages–could have perhaps produced more non-English language articles. Furthermore, as in all qualitative analysis, despite striving for inter-coder reliability and overall objectivity, the development of codes and themes was in part a product of the researchers' subjectivity and their past work on, and understanding of, the concept of the public sphere. Finally, the use of public sphere theory to understand LAM institutions should in future work be contextualized within broader discussions of political philosophy in LIS (e.g. Jaeger et al., 2013; Mathiesen,

2016; Stilwell, 2018). Future research could investigate how the concept of the public sphere is deployed in empirical studies alongside concepts used by other scholars. Nonetheless, despite these limitations, this study produces the first systematic review of research literature that utilizes public sphere theory to analyze various facets of contemporary public librarianship.

6. Conclusions

At a time when both libraries and their communities are vulnerable to change, research on how libraries, as part of their routine functions, work as public sphere institutions should address the following questions: What services are offered to communities by libraries, and what is the impact of library developments on people and communities? How do libraries change in environments characterized by big, disruptive, and slow-moving change processes, such as ubiquitous digitization, the aging of societies, worldwide migration, and climate change, which affect the lives of patrons and their communities?

More research is needed to understand how librarians, their communities, and their funders collectively navigate this terrain to continue to function as public sphere institutions. An increased and focused research effort is needed to consider the potentially important contributions of LAM institutions to the development of their communities. This research has both theoretical and practical import.

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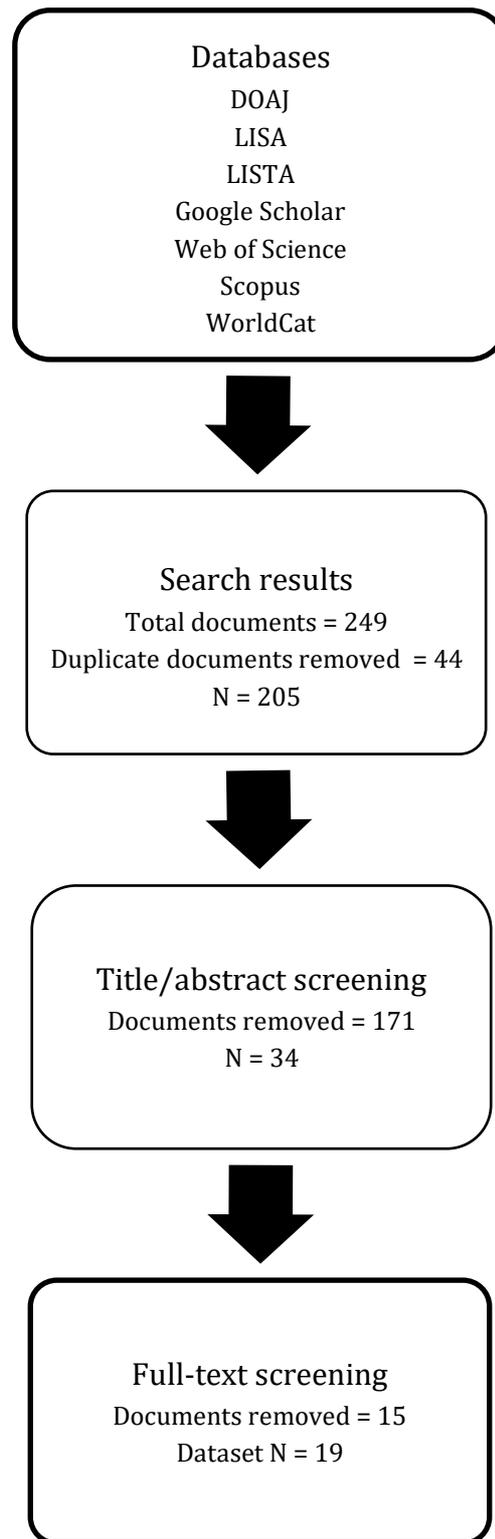Yin, R. K. (1989). *Case study research: Design and methods*. Newbury Park, CA: Sage Publications.

Databases
DOAJ
LISA
LISTA
Google Scholar
Web of Science
Scopus
WorldCat

Search results
Total documents = 249
Duplicate documents removed = 44
N = 205

Title/abstract screening
Documents removed = 171
N = 34

Full-text screening
Documents removed = 15
Dataset N = 19

Fig. 1. Document dataset selection—search and extraction processes illustrated.

Table 1

Databases, limiters, and search results.

Database	Limiters	Search date	Documents
Web of Science	Title, abstract, keywords	10/12/2018	52
Scopus	Title, abstract, keywords	10/12/2018	68
LISA	Title, abstract, keywords	03/29/2018	21
LISTA	Title, abstract, keywords	03/29/2018	31
DOAJ	Title, abstract, keywords	03/29/2018	6
Google Scholar	Title	03/29/2018	31
World Cat	Title	10/11/2018	40
Total			249

Table 2
Libraries and the public sphere in numbers.

Author	Year	Journal	Author affiliation	Empirical/ Theoretical	Method
Aabø et al.	2010	*Library & Information Science Research*	Oslo University College, University of Tromsø, Norway	Empirical	Telephone survey, quantitative, case study
Andersen & Skouvig	2016	*The Library Quarterly*	Royal School of LIS, Denmark	Theoretical	
Audunson & Evjen	2017	*Information Research*	Oslo University College, Norway	Empirical	online survey, quantitative, case study
Barniskis	2016	*Public Library Quarterly*	University of Wisconsin-Milwaukee, USA	Empirical	Interviews, qualitative CA, case study
Buschman	2005	*Public Library Quarterly*	Rider University, USA	Theoretical	
Chen & Ke	2017	*Malaysian Journal of Library & Information Science*	National Taiwan Normal University, Taiwan	Empirical	Paper survey, quantitative, case study
Engström & Eckerdal	2017	*Journal of Documentation*	Royal School of LIS, Denmark; Lund University, Sweden	Empirical	Interviews, observation, qualitative CA, case study
Harris	2008	*Human Relations*	University of Essex, UK	Empirical	Document analysis, qualitative CA, case study
Hull	2009	*Continental Philosophy Review*	University of North Carolina, Charlotte, USA	Empirical	Document analysis, qualitative, case study
Ingraham	2015	*Rhetoric Review*	University of Colorado	Empirical	Document analysis,

			Boulder, USA		qualitative, case study
Koizumi & Widdersheim	2016	*Library Review*	U of Tsukuba, Japan; U of Pittsburgh, USA	Theoretical	
Newman	2007	*Cultural Studies*	The Open University, UK	Empirical	Interviews, qualitative CA, case study
Widdersheim	2015	*LIBRI*	University of Pittsburgh, USA	Theoretical	
	2017	*Information Research*	University of Pittsburgh, USA	Theoretical	
Widdersheim & Koizumi	2015	*ASIST*	U of Pittsburgh, USA; U of Tsukuba, Japan	Theoretical & empirical	Document analysis, qualitative CA
	2016	*Journal of Documentation*		Theoretical	
	2017a	*Library & Information Science Research*		Theoretical & empirical	Document analysis, qualitative CA
	2017b	*Information Research*		Theoretical	
Williamson	2000	*Journal of Librarianship and Information Science*	University of Brighton, UK	Theoretical	

Note: CA, content analysis.

Table 3
Research themes: Examples of research aims and findings.

Theme	Examples of stated aims/research questions	Findings	References
Community	"Are the public libraries [...] used as meeting places, and if so, what kinds of meetings take place in the library? Do they function as low-intensive meeting places, […]? Do they function as a high-intensive meeting place […]? Do they function as a part of the public sphere, promoting citizenship and civic skills?" (Aabø et al., 2010, p. 17) "[…] the question is whether libraries should serve the needs of the socially excluded by providing access to digital technology, or instead retain their traditional role as an accessible archive of printed books" (Ingraham 2015, 148) "This paper will assess the roles of the public library, with particular reference to its services to socially excluded groups in society." (Williamson, 2000, p. 178)	"respondents tend to use the library as a public sphere more with growing age" and "people with lower incomes use the library for such kinds of meeting to a higher degree than high-income respondents" (Aabø et al., p. 23) "Services to the socially excluded are a useful indicator of this role, crossing as they do all five roles of the Public library. These services can be used to gauge the process by which the Public library moves into the postindustrial age, and by which the ideals of Mill and Habermas are carried into the next century." (Williamson 2000, p. 185)	Aabø et al., 2010 Chen & Ke, 2017 Ingraham, 2015 Williamson, 2000
Knowledge organization	"Concerning the public sphere theory, we will analyze what roles libraries, and knowledge organization in particular, 'fulfill in determining public interest' and knowledge organization as a place for 'creating and sustaining the public sphere' and 'facilitating the exchange of social	"It matters whether LIS perceives, researches, and teaches knowledge organization as a technical-managerial activity or as a social activity constituted by social and political discourses and their materialization in the public sphere." (Andersen & Skouvig 2016, p. 316)	Andersen & Skouvig, 2016

	capital'." (Andersen & Skouvig, 2016, p. 301)		
New tools and services	"In this paper, I develop three points. (1) I argue that CIPA and ALA are better read as examples of the enforcement of a regime of normative sexuality. […] (2) Rather than (or in addition to) punishing deviances directly, CIPA attempts to constitute a 'public' in which such deviancy can never occur in the first place. Hence, the designation of a 'public' space serves to domesticate alternative sexualities and to sanitize that space of sexual difference. (3) This interaction at the border of the public and private spheres offers an opportunity to reflect on and underscore the ways that subject formation and subjectivity are mediated through technological artifacts like the Internet." (Hull, 2009, p. 81)	"A surprising finding was the fact that the library directors with the least administration-intensive backgrounds described themselves as more willing to try new services and expand the theories of access and intellectual freedom than those with masters' degrees or lengthy careers in library administration." (Barniskis, 2016, p. 120)	Barniskis, 2016 Hull, 2009
Institutional structures and practices	"How do directors of local libraries define the role of libraries and librarians with regard to the public sphere, […]?" (Audunson & Evjen, 2017) "Existing library literature has established strong associations between public sphere theory and public libraries, and a tentative model of the public sphere in public libraries has been developed. It is not yet clear, however, how a public sphere model of public libraries might	"The data shows unanimous agreement that the arranging meetings and events is the most important thing to do in order to promote an open and enlightened public discourse." (Audunson & Evjen, 2017) "When used not as a means to lower costs but instead as a way to offer better accessibility to their users, self-service libraries hold possibilities for strengthening public libraries role as public and democratic spheres in society." (Engström & Eckerdal, 2017, p. 157) "To maintain a public sphere environment, and therefore to	Audunson & Evjen, 2017 Engström & Eckerdal, 2017 Koizumi & Widdersheim, 2016 Widdersheim & Koizumi, 2015; 2016; 2017a; 2017b Widdersheim, 2015 & 2017

	benefit the profession." (Widdersheim, 2015, p. 237) "This study explains how public libraries can remain public in a normative sense. The central research question is: How do public libraries balance public legitimacy with private influence?" (Widdersheim & Koizumi, 2017a, p. 24) "This study is an attempt to clarify how public libraries relate to the public sphere." (Widdersheim & Koizumi, 2016, p. 591)	make it possible to receive public sphere signals from that environment, the library system must enable conditions where a public of private people can form. It is true that all libraries carry out environmental scanning and strategic planning to some extent, but a public sphere approach to management requires a fundamental rethinking of why scanning and planning are performed and why they are carried out." (Widdersheim & Koizumi, 2017a, p. 33)	
Management and funding	"My focus is on the public library service as an icon of the liberal public domain in its own right, and as an institution that mediates changing conceptions of public culture." (Newman, 2007, p. 888) "This article explores the relationship between bureaucracy and digital service provision in the UK Higher Education (HE) sector, investigating a series of key issues that have a strong bearing on the virtualization and its relation to the theme of 'governance in transition'." (Harris, 2008, pp. 742-743)	"Paradoxically, the collapse of the public in new discourses of the social under New Labour, coupled with an increasing centralization of state power, is perhaps proving more damaging to the public library movement – and the wider public sphere – than was the Thatcherite programme of marketization." (Newman, 2007, p. 905)	Buschman, 2005 Harris, 2008 Newman, 2007