How reference and information service is studied: Research approaches and methods

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ABSTRACT

There is a need for a robust research base for reference and information service (RIS), both for scholarship in the field and for effective decision-making in practice. While a number of studies have been conducted about the research of library and information science (LIS) in general, no analysis has been conducted on RIS research. Focusing specifically on research approach and methods, this study analyzes the journal literature for the decade 2000 to 2009. Of the 24% of papers that were research studies, most were quantitative descriptions of data. Qualitative approaches were rarely used. The results suggest that RIS is being studied from a limited perspective and could benefit from a greater diversity of approaches and methods.

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1. Introduction

Despite the importance of reference and information service (RIS) as a fundamental area of library and information science (LIS), little is known about the characteristics of the literature in this subfield. The LIS literature overall has been characterized in many ways by studies examining the amount of empirical research published and the research methods used, as well as other characteristics. However, only three studies have specifically examined the RIS literature: a content analysis of the RIS literature from the mid-1950s to the mid-1960s by Wynar (1967), a recent analysis of the articles published in *Reference Services Review* by Mahraj (2012), and a selective review of the research methods used to study the reference transaction by Richardson (2002). To characterize the literature of RIS, a current and more comprehensive study is needed. The current study focuses specifically on the quantity of research produced and on research methods used.

This study is based on two key assumptions. First is the assumption that empirical research is important for any subfield. Second is the assumption that a variety of research approaches and methods creates a stronger body of research. To develop a body of research with only in-depth, exploratory studies or only large-scale studies with generalizable results would be to leave some possible research questions unanswered.

With these assumptions in mind, the authors questioned whether the RIS literature included a strong and varied research base. In 1967, Wynar found that "most of the articles … were repetitive of 'how we

do it in our library' or simply were news reports of how the library dealt with a specific problem, with no attempts at any kind of generalization" (pp. 341). Would the same be true decades later? In his analysis of research on the reference transaction, Richardson found a "move from merely descriptive studies to those studies with more theoretical approaches and a clearly increasing methodological sophistication, usually quantitative" (2002, pp. 223). Would the same patterns of research methods be found in the broader RIS literature? This study was designed to further this earlier research with more current and comprehensive results.

2. Problem statement

RIS is a key domain of LIS and should be supported by a robust research base. To continue to extend knowledge about RIS, scholars need a strong and diverse base of research on which to build. Such a research base should include both breadth and depth of content, as well as a variety of research methods. In addition, RIS practitioners need research evidence for informed decision-making. Although reports of successful services may be useful, research studies provide stronger evidence upon which to base service decisions. It is unclear whether RIS currently has this robust research base and whether there are deficiencies in the research base that need to be remedied. This study aims to respond to this gap in knowledge by addressing the following research questions:

- How much of the literature on reference and information services is empirical research? How does this compare with LIS literature overall?
- What types of research approaches and methods are used in reference and information service research?

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Answering these questions will provide a starting point for evaluating the research of RIS and identifying deficiencies in the research in terms of approach and method.

3. Literature review

3.1. Analyses of the RIS literature

Although no comprehensive study of the RIS research literature has been conducted, two studies have used content analysis to explore RIS literature. Wynar (1967) analyzed 227 RIS-related journal articles. The aim of the analysis was to investigate development of reference theory, rather than the methods used. Only two of the articles in his dataset were described as "theoretical" articles, the largest categories of articles being "practical" and "how we do it" types (pp. 341). Mahraj (2012) studied articles published in *Reference Services Review* from 2006 through 2011. Research methods were not studied, but article type, as categorized by the journal, was reported: 40% were research papers, 31% were case studies, 13% were general or literature reviews, 6% were conceptual papers, 5% were viewpoints, and 1% was not assigned a category.

As previously mentioned, Richardson focused specifically on research methods in his review of research on the reference transaction. Richardson observed that the research on reference transactions progressed from mainly descriptive studies to linear modeling and more sophisticated statistical work in the last decade studied.

3.2. Content analysis of the LIS literature

There have been numerous content analyses of the broader LIS literature. In addition to those detailed in the sections below, some foundational analyses of the general LIS literature include Allen and Reser (1990), Buttlar (1991), Enger, Quirk, and Stewart (1989), Feehan, Gragg, Havener, and Kester (1987), Järvelin and Vakkari (1990, 1993), Kumpulainen (1991), Nour (1985), and Peritz (1980). These studies use content analysis to determine the amount of research, types of research methods used, author affiliation, use of theory, funding sources, and other variables. The authors use various strategies for collecting and for analyzing their data, so comparing the results is challenging. However, given the number of studies over several decades, some trends can be seen and used as a basis for comparison.

Content analyses of the LIS literature use two major approaches. The more common approach, which will be referred to here as the specific-journal approach, uses as a basis for analysis articles published in a group of top journals, such as those with a high impact factor (for example, Hider & Pymm, 2008), or in a single journal or small group of journals, such as:

- *Bulletin of the Medical Library Association* (Dimitroff, 1992; Gore, Nordberg, Palmer, & Piorun, 2009);
- *College & Research Libraries* (Cline, 1982; Kim & Kim, 1979);
- *College & Research Libraries* and *Journal of Academic Librarianship* (Bao, 2000; Crawford, 1999);
- *Journal of Documentation, Journal of the Association for Information Science & Technology*, and *Library & Information Science Research* (Chu, 2015);
- *Journal of the American Society of Information Science* (Harter & Hooten, 1992; Houser, 1988; Koehler, 2001); and
- *School Library Media Quarterly* (Callison, 1997).

The other approach, which will be referred to as the topical approach, considers articles published on a particular topic, regardless of journal. Focuses of content analyses using a topical approach include:

- children's needs and services (Naylor, 1987);
- information needs and uses (Julien, 1996; Julien & Duggan, 2000; Julien, Pecoskie, & Reed, 2011);
- instructional services in libraries (Crawford & Feldt, 2007; Zachert, 1987);
- public librarianship (Goodall, 1996; Hersberger & Demas, 2001);
- school librarianship (Clyde, 2004);
- special librarianship (Dimitroff, 1995); and
- technical services (Gelber, 2013).

Despite the variety of areas covered by topical content analyses, an obvious gap is a contemporary study of the literature of RIS.

Although no recent studies have taken a topical approach to analyzing the RIS literature, two of the specific journal studies used domain as a variable, including RIS. Koufogiannakis, Slater, and Crumley (2004) studied top journals from the year 2001 and included RIS as a domain. Blessinger and Frasier studied top journals from 1994 to 2004 and included RIS as a "top subject area" (2007, pp. 162).

3.3. Amount of research

Some of the content analyses of the LIS literature report the percentage of articles published that are empirical research studies. These analyses report a wide range in the proportion of research studies to other types of articles. This wide range is due to a number of factors, including years studied, operational definition of research, and approach taken (specific-journals or topical). Koufogiannakis et al. (2004) compared findings of content analyses over the years and found that, in the studies reviewed, the proportion of research articles ranged from 15% to 57%. Their study of the 2001 literature found a 30.3% research rate ($N = 807$), which may be the best point of comparison due to the year of the study. Julien et al. (2011) found a 70.6% research rate for the information needs and uses literature ($N = 528$), indicating that content analyses on particular topics may show different proportions of empirical research than studies looking at LIS as a whole.

Mahraj's (2012) study of *Reference Services Review* reported that 40% of articles in the journal were assigned the article type "research papers" (pp. 189). Koufogiannakis et al. (2004) coded the LIS literature by domain and found a surprising lack of research in the reference domain: of the 807 research articles published in all domains in 2001, only 77 were categorized as reference (pp. 232). Their study does not examine the amount of RIS research compared to the number of RIS publications overall. Blessinger and Frasier (2007) studied articles published in top journals from 1994 to 2004 and found 2001 to be the peak year for RIS articles. Their study is of limited use in understanding RIS research because it does not separate research studies from other types of articles.

3.4. Research methods

LIS tends to be dominated by a quantitative approach to research (see, for example, Crawford, 1999, pp. 227; Hider & Pymm, 2008, pp. 112; Kumpulainen, 1991, pp. 67). Only Gelber's (2013) study of the technical services research (for the years 2007–2011) found a contradictory result. Gelber's study found that 54.7% of the research articles were qualitative, 27.3% were quantitative, and 18% were mixed methods ($N = 256$, pp. 178). Gelber's finding may be due to the focus on technical service literature, or it could be due to methodological issues. Gelber's study found an unusually high number of case studies, an issue that is addressed below.

As previously mentioned, a wide variety of categories for research methods are used, which makes direct comparison of results across studies challenging. There are some trends, however, that stand out, regardless of the exact categories used. The LIS research is dominated by descriptive methods, and in particular survey methods. Nearly every content analysis reports this finding (Hider & Pymm, 2008, pp. 111; Järvelin & Vakkari, 1990, pp. 408; Julien et al., 2011, pp. 21; Koufogiannakis et al., 2004, pp. 232).