



Synthesizing information systems knowledge: A typology of literature reviews



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ABSTRACT

In this article we develop a typology of review types and provide a descriptive insight into the most common reviews found in top IS journals. Our assessment reveals that the number of IS reviews has increased over the years. The majority of the 139 reviews are theoretical in nature, followed by narrative reviews, meta-analyses, descriptive reviews, hybrid reviews, critical reviews, and scoping reviews. Considering the calls for IS research to develop a cumulative tradition, we hope more review articles will be published in the future and encourage researchers who start a review to use our typology to position their contribution.

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1. Introduction

The information systems (IS) community has grown considerably since it first emerged in the 1960s. Over the past 50 years, the development of IS as a scientific field is evidenced by the solid research tradition that has been built. Indeed, an increasing volume of IS research uses IS itself as the reference discipline [1]. The growth of our field is also related to the fact that IS research is emerging as an important reference discipline for other fields, such as psychology, education, marketing, operations management, and many other management domains [2]. The rapid diffusion of IS knowledge both within and outside its own boundaries requires researchers to find a way to quickly synthesize the extent of the literature on various topics of interest and address any and all relevant gaps [3].

The accumulation of knowledge is an essential condition for a field to “be scientific” and to develop [4]. More precisely, conducting effective literature reviews is essential to advance the knowledge and understand the breadth of the research on a topic of interest, synthesize the empirical evidence, develop theories or provide a conceptual background for subsequent research, and identify the topics or research domains that require

more investigation [5–8]. Literature reviews are also valuable as a means of becoming oriented in an emerging domain and as an aid in teaching [9,10]. While the importance of producing high-quality literature reviews in the IS domain is well recognized [11–13], we feel there remains confusion about the term “review” and, most importantly, the types of review articles that are published in our field.

The most prevalent type of review is commonly labeled the “literature review” or “theoretical background” within an empirical article. This section of a paper usually provides the theoretical foundations and context of the research question and helps bring the research question into focus [14]. According to Baker [15], it represents an “essential first step and foundation when undertaking a research project” (p. 219). More precisely, the literature review section helps the researcher understand the existing body of knowledge, provides a theoretical foundation for the proposed empirical study, substantiates the presence of the research problem, justifies the proposed study as one that contributes something new to the cumulated knowledge, and/or frames the valid research methodologies, approaches, goals and research questions for the proposed study [12].

There exists another type of literature review that constitutes an original and valuable work of research in and of itself. Rather than providing a basis for the researcher's own endeavors, it creates a solid starting point for all other members of the academic community that are interested in a particular topic [9,16]. The

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so-called “review article” is a journal-length article that has an overarching purpose of summarizing or synthesizing the literature in a field without collecting or analyzing any primary data. Review articles can be undertaken for several reasons, such as analyzing the progress of a specific stream of research, aggregating findings or reconciling equivocal results of prior studies, reviewing the application of a theoretical model or a methodological approach, developing a new theory or research model and providing a critical account of prior research on a particular topic or method [5].

Recognizing that knowledge accumulation increasingly relies on the integration of previous studies and findings, several senior IS scholars have made calls for more review articles in our field [e.g., 2,11,17]. As a clear indication of the increasing need for review articles, the *MIS Quarterly Review* department was created in 2001 with the aim of representing an ideal communication outlet for synthesizing prior research and sharing knowledge [17]. In 2007, this department became *MISQ Theory and Review* with the goal of redirecting the attention of researchers to the concepts and theories used in the IS field and encouraging them to embark on IS theory building [18]. Despite this shift in focus toward theory building, *MISQ Theory and Review* has maintained the review component as part of its mission. In short, we believe that the enhanced role of review articles in our field requires that this expository form be given careful scrutiny.

Our primary goal in this article is to demystify the various types of literature reviews that exist. To do so, we first review the extant literature on that topic to come up with a typology that identifies, defines and contrasts various forms of research syntheses. It is our hope that the proposed typology will serve as a valuable resource for those that conduct, evaluate and/or interpret reviews both within and outside the IS field. Our second objective is to provide descriptive insight into the most common review types found in top-ranked IS journals. To our knowledge, no prior research has conducted a formal assessment of the review practices in our domain. The present study attempts to fill this gap. In the next sections, we explain the process that we followed to develop our typology and then describe and illustrate each review type.

2. Development of the typology

Classification is one of the most central and generic conceptual exercises. Bailey [19] and Smith [20] make a clear distinction between two forms of classification, namely, typologies and taxonomies. While a typology is derived in a deductive manner, a taxonomy is usually derived empirically or inductively using cluster analysis or other statistical methods. Given that knowledge synthesis is not a new concept and that leading methodologists have proposed several approaches and methods to review the literature, it clearly appears that a typology is more aligned with our initial objective.

Typologies contain two distinct constructs. The first construct is the *ideal profile*. Ideal profiles are used to represent holistic configurations of multiple constructs. They are intended to “provide an abstract model, so that deviation from the extreme or ideal profile can be noted and explained” [21:p.32]. In other words, ideal profiles are theoretical abstractions that are used to examine empirical cases in terms of how much they deviate from the ideal [20]. Second, ideal profiles are described in terms of multiple dimensions called *first-order constructs* [22]. As a result, each ideal type represents a unique combination of the values associated with the fundamental dimensions. In our context, the term “ideal” is used in the sense that review types are internally coherent.

Developing a typology that is both valid and comprehensive represents a complex endeavor. We began our study with two main questions in mind: (1) What types of literature reviews

currently exist? and (2) What are their main characteristics or properties? Initially, each of the authors independently explored different sources of information using informal and unstructured methods and tools. We did not know what specific search terms and inclusion criteria to use to identify relevant and reliable sources. As shown later, the growth of research synthesis methods over time and their application within several disciplines has led to a plethora of labels and terms that are frequently used inconsistently by academics. Therefore, our initial “playground” contained a fuzzy set of labels, definitions, and descriptions, which made the search and mapping process quite challenging. Gradually, with time, we realized the importance of searching for relevant material that provided valuable insights into the *dimensions* that distinguish one review type from another. We also understood that if we searched only for sources that provide the methodological guidelines associated with a particular type of review, we would run the risk of favoring review types that have a well-established tradition while neglecting those that are in the uptake phase of the diffusion cycle.

After these initial searches, our strategy became progressively more structured. For example, we contacted several scholars with solid experience in publishing review articles, asking them for advice on how to conduct and refine our search. In parallel, we participated in several workshops and webinars on topics related to systematic reviews. As a next step, we carried out structured searches in four databases (ABI/INFORM, MEDLINE, ERIC, and Web of Science) to identify published sources that provided (1) historical accounts of research synthesis approaches [e.g., 23], (2) detailed descriptions of particular review types [e.g., 24–27], (3) guidelines for conducting, writing or evaluating literature reviews [e.g., 5,11,28–31], (4) critical accounts of one or several research synthesis approaches [e.g., 32,33], or (5) direct comparisons between types of reviews with regard to their attributes or characteristics [e.g., 2,34]. Backward and forward searches were also performed to identify more relevant sources [11].

Throughout the process, there was considerable discussion among the research team as to the identification of the key references with regard to our particular objectives. As more sources emerged, we decided to focus on those that drew comprehensively upon one or more type of reviews, made an original contribution to the theory of literature reviews, or had been cited as influential contributions by research synthesis methodologists. In total, about 40 reliable sources from various disciplines including the health sciences, nursing, education, library and information sciences, management, software engineering, and information systems were selected and represent the building blocks of our typology of reviews (see Table 1).

By carefully reading through the detailed descriptions provided in the selected sources, we collectively identified nine literature review types and extracted seven recurrent first-order constructs (dimensions) most often used to distinguish between review types (see Table 2). These first-order constructs are (1) the overarching goal of the review, (2) the scope of the review question, (3) the search strategy, (4) the nature of the primary sources included in the review, (5) the explicitness of the study selection, (6) the quality appraisal, and (7) the methods for synthesizing/analyzing findings. Although the extent to which authors relied on these dimensions and referred to them when describing review types varied, they were fundamental in the development of our typology. Appendix I presents the sources we used to identify the dimensions of the typology as well as the properties of each dimension. Each source was analyzed independently by at least two members of the research team. We used data extraction forms and conceptual mapping techniques to distill useful information about the prevailing terminology, scope, research design, methodologies, and other characteristics of each review type. The collective

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