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Unbundling practice: the unbundling of big deal journal packages as an information practice

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Abstract

Purpose – The purpose of this article is to introduce a theoretical framework and approach for studying the evaluation and decision-making practices through which academic librarians attempt to reduce the cost of electronic journal subscriptions – an organizational practice known as the unbundling of big deal journal packages.

Design/methodology/approach – The article presents a literature-based conceptual analysis of several fields to delineate the elements of the practice of unbundling of big deal journal packages. Beyond analysing the prior literature, the discussion is supported by empirical findings from a pilot study on the topic conducted by two of the article's authors.

Findings – The main finding of the article is that the unbundling of big deal packages is a case of what sociologist refers to as decision-making in a social context. By reviewing previous studies, the article identifies the social and material elements constitutive of this practice. This, in turn, allows to develop questions and concepts for future research on the topic and to position it as an area of inquiry within the field of information behaviour/practices.

Originality/value – The article is the first attempt to conceptualize the unbundling of big deal journal packages by highlighting its phenomenological status as a type of information practice. In addition, the article proposes a research approach for studying this type of information practice by drawing on insights from the information behaviour/practice literature and enriching them through practice theory contributions in organizational studies and sociology.

Keywords Academic libraries, e-journals, Big deal packages, Evaluation, Decision-making, Practice theory

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1. Introduction

Access to electronic journals is ubiquitous within institutions of higher education and a prerequisite for the growth of knowledge. The cost of academic journal subscriptions, however, has become a major organizational challenge for academic libraries in North America and Europe, a development that has been labelled by librarians as the *serials crisis* (Busby, 2011). The origin of the serials crisis can be traced back to the commercialization of academic publishing that began in the 1970s and has gradually transformed the industry into a lucrative business. As recent studies show, in 1973, not-for-profit scholarly societies and university presses published close to 80% of all journals. In contrast, in 2013, five for-profit publishing conglomerates accounted for over 50% of all journal publications in the natural, medical, and social sciences as well as the humanities (Larivière et al., 2015, pp. 4-5).

This state of market oligopoly provides publishing conglomerates a significant control over the price at which journals are licensed to academic libraries—the largest purchaser of journals, accounting for close to 75% of the industry's annual $10 billion revenue stream (Beverungen et al., 2012, p. 931; Larivière et al., 2015, p. 11). As Shu et al. (2018) report, between 1986 and 2011 the price of journal subscriptions has increased by 223%, a rate twice the rate of inflation for this period (p. 791). The continual increase in the price of journal subscriptions has for long puzzled observers, who have noted that for-profit journal subscriptions tend to be, on average, 500% higher than those of non-profit journals despite that their production costs are similar (Edlin and Rubinfeld, 2004, p. 120). In addition, and more recently, the systematic cuts to library budgets brought about by the 2007-2008 financial crisis have reduced libraries' ability to cover the ever-growing cost of academic journal subscriptions, thus deepening the crisis (Hahn, 2009; ICOLC, 2009).

The serials crisis has become a topic of vigorous academic and public critique in recent years. These accounts typically focus on bringing to light the inequitable business model of the for-profit journal publishing industry and on tracing the industry's gradual commercialization through an analysis of policy, transactional, and bibliometric data (e.g., Beverungen et al., 2012; Busby, 2011; Buschman, 2015; Larivière et al., 2015; Shu et al., 2018). This article introduces an alternative research agenda on the serials crisis that extends the analytical scope and objectives of earlier work in the direction of practice theory approaches for studying the production, management, and use of information and knowledge (Knorr-Cetina, 1999; Camic et al., 2011).

Specifically, the article does so by proposing that our understanding of the effects of the serials crisis, and our ability to develop strategies for attenuating these effects, could be advanced by a research examining the evaluation and decision-making practices through which librarians attempt to reduce the cost of large electronic journal subscriptions—known among academic librarians as *big deal packages*. In this article, we develop this idea by reflecting on the literature in several fields and our prior research on the topic. The article's goal is thus first to contextualize and then delineate the elements, information practices, and data used in what is known in academic library circles as the *unbundling of big deal packages*—a practice that, as we will show, pivots on evaluation and decision-making.

The discussion that follows begins with three background sections that describe the business model of the for-profit journal publishing industry, the data and analytical tools of journal evaluation, and the phenomenon of big deal packages in sections 2, 3, and 4. Having established this background, in sections 5 and 6, we develop a conceptualization of the practice of unbundling of big deal packages by drawing on literature in sociology and organizational studies and the findings of a pilot study conducted in 2017 as part of our research on the topic (Johnson and Cassady 2020). Subsequently, in sections 7 and 8, we highlight parallels and commonalities between the conceptualizations we have developed and the information behaviour and practice literature. Collectively, these sections present an outline of a research agenda for studying the unbundling of big deal packages as an information practice. By virtue of describing and conceptualizing the unbundling of big deal packages as a practice, and by offering ideas on how such aspect of library work can be studied through a practice-based lens, the article will be of interest to librarians interested in theorizing the unbundling of big deal packages, as well as to information behaviour and practice scholars interested in exploring new theoretical and empirical areas of research.

2. **The Business Model of For-Profit Journal Publishing**

The for-profit journal publishing industry operates by appropriating the labour of communities of scholars and incorporating it into the production of journals, which are then purchased by libraries to be made accessible to the communities who produce them. In this business model, the researching, writing, and reviewing of articles and the editing of journals is done for free by scholars (whose research in many instances is publicly funded and whose salaries are paid by academic institutions), while the final products of this labour (i.e., the journals and articles therein) are sold to academic libraries at a significant profit margin (in some instances as high as 40%) (McGuigan and Russell, 2008; Busby, 2011). The major costs of producing journal articles thus is borne by scholars and the institutions which employ them, while the publishers' bare secondary costs such as "formatting, printing, marketing and distribution [of journals]" (Beverungen, et al 2012, p. 932). This business model largely accounts for journal publishing's reputation as "one of the most profitable industries in the world" (Shu et al., 2018, p. 796).

The industry, however, is also profitable because the demand for journals "responds little to price changes" (Shu et al., 2014 p. 786). The reason is that journal articles are non-substitutable and cannot be sourced from competitors at a cheaper price (Peters, 2009, p. 232). In essence, each journal article is a unique contribution to knowledge, and at least in theory, it is irreplaceable. The market for journals thus resembles other markets that pivot on the singularity of goods, such as the art and luxury goods markets, where consensus on the quality of the goods are the primary determinant of their price (Karpik, 2011). This view is supported by prior analysis of journal publishing concluding that what makes "a journal valuable is the simultaneous consensus of authors, reviewers, editors, libraries, readers, tenure committees, and indexing services" (Edlin and Rubinfeld, 2004, p. 129).

Another factor contributing to the profitability of journal publishing is on the supply side. Higher-education has expanded rapidly following World War II, creating thousands of faculty positions and sharp increase in academic publishing (Abbott, 2011). The gold standard for evaluating academic merit, and advancing academic careers, within the meritocratic system of academia is scholars' productivity rate, which is estimated based on their publications (Sonnert, 1995). This provides additional impetus for scholars to compete for placing their articles in prestigious journals, many of which are owned by for-profit publishers. Collectively, the steady supply and demand, and the singularity of journal articles as unique objects of knowledge, ensure that they remain a highly profitable market goods.

3. The Evaluation of Journals

An important process mediating the demand for journals is their evaluation. This process is based on both quantitative rankings and qualitative judgments. Quantitative rankings for determining the value of journals play a central role in evaluation and decision-making but their utility as proxies of journal value is debatable. One of the most highly regarded ranking instruments, the *Impact Factor* (IF), is a bibliometric index developed by Eugene Garfield, a founding figure of the science of bibliometrics. As a statistical measure, IF operates by "counting the number of current year citations to articles published by a journal during the preceding two years and dividing the count by the number of articles the journal published in those two years" (Baum 2011, p. 450). However, the measurement validly of IF is low because, in practice, a high number of citations to a few articles in a journal, skew the entire journal's IF, despite the fact that the majority of articles published in the journal may be rarely if at all cited (Baum 2011, pp. 453-464; Seglen, 1994). As Baum (2011) notes, it is for this reason that Garfield did not intend for IF to be taken as anything more than a "usage sorting device," but irrespective of his intentions, IF has come to be considered as "a definitive quantitative rating of the quality of journals" (p. 450).

There are certainly today more sophisticated and accurate statistical measures than IF in contemporary bibliometrics such as the h-index (Hirsch, 2005) that measures citations to articles as well as the overall productivity of their authors and the SNIP (Source Normalized Impact per Paper) that measures impact by taking into consideration the differences in publication practices by different fields of study (Moed, 2010). Nevertheless, and despite that they are continually improving and becoming more complex, the application of quantitative rankings presents sampling and measurement validity errors that cast limits on the usefulness of their indications (Adler and Harzing, 2009; Jarwal et al., 2009).

While it is well understood that quantitative rankings are unreliable indicators of journal quality, they play a key role in the decision making of reviewers, editors, librarians, search and tenure committees, and even readers. One reason for this is that qualitative judgments about journals are also unreliable, and in addition, are substantially more difficult to produce, especially at scale. How librarians make qualitative judgments about journals has not been substantively studied. But, as a proxy, decision-making in peer-review evaluations has been extensively studied. This literature suggests that peer-review evaluations are highly inconsistent, idiosyncratic, and susceptible to distortion by a host of cognitive biases and social factors (for an overview, see Osterloh and Frey, 2015, pp. 105-107). When performed in expert panels—a strategy aimed at enhancing their objectivity—peer-review evaluations tend to take on micro-political dynamics primarily because there is frequent incongruence between the epistemic criteria individual researchers bring to their evaluations (Lamont, 2009, pp. 107-159). Because librarians are aware of the limitations of both quantitative rankings and qualitative judgments, the evaluation of journals often involves the interplay of the two (a process discussed further in section 5).

4. Big Deal Packages

Big deal packages are bundled subscriptions to electronic journals, typically comprising a publisher's full catalogue of journals in a given area licensed to libraries for a fixed annual fee (Frazier, 2001). The practice of bundling journal into big deals emerged in the beginning of the century and quickly became established as the status quo in North America. Publishers initially presented big deal packages as a cost-effective solution that allows libraries to provide electronic access to large lists of journal titles at a fixed price based on an additional charge to the subscription price for print journals. Although at the time the novelty of electronic access may have justified the additional cost, the annual fees libraries pay for access to big deal packages have continually been increasing at a rate double that of inflation (Jurczyk & Jacobs 2014, p. 617), and according to recent estimates have grown by 223% between 1986 and 2011 (Shu et al., 2018, 791). Yet, big deal subscription packages are ubiquitous, with close to 90% of North American libraries subscribing to one or more (Jurczyk & Jacobs, 2014).

An ongoing concern among librarians is that the majority of titles in a big deal package provide little value to library users. One of the first commentators to raise this point is Frazier (2001) who notes that subscribing to a big deal package, as opposed to curating a list of journal titles, deprives librarians of the "opportunity to shape the content or quality of journal literature through the selection process" (np.). Concerns about this aspect of big deal packages persist to this day and have been most recently noted by Shu et al. (2018), who observe that typically a big deal package comprises a relatively small number of highly valued journals and a large number of "secondary journals, which currently often serve as—and are subsidized for—*filler* for these bundled big deals" (p. 796 [emphasis in the original]).

While this allows publishers to monetize their entire catalogue and thus optimize organizational resources, the value this licensing arrangement creates for libraries, scholars, and readers is much more difficult to justify. Importantly, the big deal pricing model favours the retention of big deals rather than their unbundling as, somewhat paradoxically, subscribing to a big deal with thousands of journal titles is often cheaper than subscribing individually to a few hundred highly sought-after titles. In this way, big deal pricing models are mechanisms through which publisher's protect their business interests, but this increasingly seems to be at the expense of academic libraries and the communities they serve.

Furthermore, big deal subscriptions tend to be contractually restrictive. As a study conducted in 2012 indicates, as many as 39% of libraries in North America are locked in contractual arrangements that do not allow them to cancel big deal subscriptions, while an "additional 24% have contracts that allow them to cancel journal titles only if they declare a *fiscal emergency*" (Strieb and Blixrud, 2013, p. 16 [emphasis in the original]). To obscure this pricing mechanism, publishers include non-disclosure clauses in subscription contracts, which lowers the overall perception of the real cost of journals (Moore and Duggan, 2011). Besides that, in some cases, subscribing to a big deal package does not guarantee perpetual access to the journals following a cancellation, or only grants perpetual access to a small core subset of titles (Waller and Bird, 2006).

In response to the increasing price of big deal packages, libraries have enhanced their collective bargaining power through banding into *library consortia* and other professional networks. While library consortia predate the advent of big deal packages, several authors indicate that introduction of big deal packages is at present one of the primary functions they perform (Alexander, 1999; Cryer and Grigg, 2011). Beyond collective bargaining, more radical approaches have been adopted in Europe, where leading national research funding organizations have demanded that by 2021 publicly funded research is published exclusively in open access journals—an initiative known as *Plan S* (Bastian, 2008; Else, 2018). Parallel to that, innovative technological solutions have also been developed to democratize access to academic journals. A leading example is the *Unpaywall* platform, which harvests open access journal articles and provides centralized access to them to everyone with an access to the internet.[1]

[1] Unpaywall. URL https://unpaywall.org/

Consortia have been effective in leveraging their collective bargaining power to negotiate the price and contents of big deal packages. Likewise, innovative technological solutions such the Unpaywall platform are indicative of promising trends in democratizing access to knowledge. But these solutions do not fully address libraries' inability to shift from big deal package subscriptions to per-title subscriptions. A persistent obstacle to achieving this is that the needs of academic libraries and their budgets vary drastically, making it difficult to negotiate big deal package subscriptions that are favourable to all consortium members (Gatten and Sanville, 2004). This issue has been recently brought to attention by the Canadian Research Knowledge Network (CRKN), a leading Canadian library consortium, in their efforts to negotiate big deal packages. As Jurczyk and Jacobs (2014) report CRKN has attempted to address the evaluation of big deal packages by developing quantitative measures that can "ensure that [big deal] packages licensed are of high value"; however, the efficacy of this "overall collection evaluation model" has been hampered by the fact that CRKN's membership is vastly diverse, ranging from small college libraries to the University of Toronto library system (the third largest in North America) (Jurczyk and Jacobs, 2014, pp. 627-628). Correspondingly, Jurczyk and Jacobs (2014) highlight the importance for large or small academic libraries to individually conduct "careful and complex cost-benefit analysis" to determine if the value of the big deal package justifies their cost (p. 617). Thus, the CRKN experience underlies the importance of studying the organizational context of evaluation and decision-making in big deal packages unbundling. In the following sections, we present a preliminary model of how this process unfolds as a practice situated at the organizational level of academic libraries.

5. The Unbundling of Big Packages in Practice

Efforts to unbundle big deal packages are related to what has come to be known as the *Evidence-Based Library and Information Practice* (EBLIP) approach. The EBLIP approach prioritizes the use of quantitative data as evidence for decision-making towards improving library services (Booth and Brice, 2004; Eldredge, 2012; Koufogiannakis and Brettle, 2016). It is in the context of this current professional paradigm that the vast majority of academic libraries in North America routinely evaluate the price of big deal packages. Librarians use these evaluations to decide if they should continue their library subscriptions. But because ceasing to provide access to journals altogether is not an option, the objectives are to decide what journals within a big deal yield most value and could be either (1) sourced out from the publisher with individual licences or (2) be bundled in a smaller package at a lower price. Hence, the term **unbundling** most accurately describes this organizational practice—as the practice, in essence, involves the renegotiation of the terms of the deal between the seller and buyer, rather than the ceasing of business relations altogether. As noted earlier, paradoxically, what libraries have been finding throughout this experience is that subscribing to a big deal with thousands of journal titles is cheaper than subscribing individually to a few hundred titles. As a result, libraries often are unable to find a cost-effective way to unbundle big deal packages. There is continuous research on developing better models for evaluation and decision-making, as well as, frequently reported success stories in the literature (e.g., Wolfe et al., 2009; Jones and Marshall, 2013; Nabe and Flower, 2015), but overall, how unbundling unfolds as a practice has not been previously conceptualized and studied.

We argue that conceptually the process of unbundling big deal packages can be described as an organizational practice centred on determining if the **value** of big deals matches their **price**. The two concepts of price and value are best kept separate because the outcome of big deal unbundling projects fundamentally hinges on determinations of the equivalence between value and price. As such, at the most rudimentary level, the practice of unbundling big deal packages pivots on determining if the price of a given big deal package corresponds to the value it yields for a specific academic library—a process we label as determining the **price-value equivalence** of journals.

Making such evaluations in practice is complicated, however, because of the limitations of quantitative rankings and qualitative judgments and because of the diverse yet highly-specialized information needs of academic library users. To circumvent the complexity of this task, librarians evaluate journals by developing approaches and tools that combine a variety of quantitative data and measures. These include quantitative rankings such as IF but also citation analyses and usage statistics. Usage statistics are used to quantify the usage of an entire big deal package or individual journal titles therein. Data for compiling usage statistics come from either information services aggregating usage data—including but not limited to Publisher and Institutional Repository Usage Statistics (PIRUS), Standardized Usage Statistics Harvesting Initiative (SUSHI), Project MESUR—or from data sourced from local, “home-grown”, information systems (cf. Pan and Fong, 2010; Blecic et al., 2013; Rathmel et al., 2015). The accuracy of tracking the use of journals depends on the quality of data used in the process, and because several data sources, including local information systems, are typically used, the interoperability, normalization, and cross-walking of data are necessary but also complex and error-prone components of this process (Bucknell 2012). Similar to other current information practices, tracking the use of journals is complicated by the task of identifying and managing data rather than its scarcity, as "the plethora of data itself becomes a problem" (Markovic and Oberg, 2018, p. 192).

Another issue is that the use of journal articles varies in scope and intensity across disciplines, and without an awareness of the context of data an accurate and meaningful attribution of value is not possible. As Luther (2002) explains, usage statistics without context are useless; "it is dangerous to assume that a popular title that is used by many students is worth more than a research title that is used by only a few faculty members working in a specific discipline" (p. 3). Context, however, is notoriously complex to operationalize and measure, as it is to a large extent a phenomenological variable (Courtright, 2007). In addition to these challenges, usage statistics exhibit sampling and measurement validity issues similar to those of quantitative rankings. A subsequent step in the evaluation of big deal packages is the combining of quantitative rankings such as IF and usage statistics in some form of decision-making model or an algorithm. Typically, librarians combine quantitative rankings as an indicator of the overall intellectual value of a journal (i.e., by virtue of indicating how often papers within a journal are cited) and usage statistics as an indicator of journals' utility (i.e., by virtue of indicating how often papers within a journal are accessed and downloaded).

Importantly, there are reasons to believe that librarians are aware of the limitations of quantitative rankings and usage statistics for pinpointing the real value journals. On a general level this is manifested as an awareness of the types of value that journals may carry that cannot be turned into numbers and calculated relative to a price. These include the intellectual values journals may carry for the research of faculty and students and the overall function of the library as a hub for higher learning—a category of values which cannot be turned into numbers and objectively calculated and hence following work in the sociology of quantification we label as **incommensurable values (**Espeland and Stevens, 1998). Librarians are aware that the incommensurable values of journals cannot be neatly captured quantitatively. Correspondingly, they try to capture and estimate them qualitatively. Typically, methods for doing so include conducting faculty and student surveys, focus groups, and other forms of inter-personal stakeholder consultations. In most cases, the subject-expertise of librarians is what guides them in determining if a given journal manifests a range of incommensurable values that align with the remit of a library collection. The challenge of using expert qualitative judgments, however, typically necessitates converting one's expert judgment of value into an intersubjective agreement on value, a process that is as much epistemic as it is social and micro-political (Lamont, 2009; Chong, 2013).

As a result, the most advanced application of evaluation in unbundling projects is combining quantitative rankings, usage statistics, and qualitative judgments into decision-making models and algorithms. Such decision-making models and algorithms are routinely developed and published by librarians and include measures of value, utility, and overall cost-effectiveness that combine both quantitative and qualitative input. Notable examples of such evaluation tools include the *California Digital Library* (*CDL) Weighted Value Algorithm* but a plurality of other variants have been reported in the literature (e.g., Juznic, 2009; Jones et al., 2013; Sutton, 2013; Moisil, 2015; Hoeve, 2019). It is unclear at present to what extent decision-models and algorithms are altered and adapted to fit local contexts of application, but likely such practices are common as they are a characteristic feature of information work (Gerson and Star, 1986; Alter, 2014).

Furthermore, the findings of a pilot study (Johnson and Cassady 2020) we conducted in 2017 to explore this topic offer additional insights into the issues discussed thus far. The study comprised both a survey (N=15) and interviews (N=13) with librarians who had recently worked on an unsuccessful project to unbundle a big deal. Specifically, the survey asked the librarians to rank the importance in their evaluations of (a) different quantitative metrics such as the cost of the journal, usage data, cost-per-use, and impact factor, as well as, (b) qualitative judgments such as the perceived importance of the journal to the discipline, their personal assessment of the journal's value, and faculty feedback. After completing the survey, the librarians were also invited to sit for semi-structured interviews in which they were encouraged to reflect on their experience with big deals unbundling and were asked to reflect on their preference for the use of either quantitative rankings or qualitative judgments in journal evaluation.

An important finding in the Johnson and Cassady (2020) is that shapes our thinking on the topic is that in their survey responses librarians clearly express preference for either quantitative metrics or qualitative judgments for journal evaluation and thus, we propose, can be grouped into two communities of practice—with one group placing more weight on objective data obtained through quantitative rankings and usage statistics, and the other group, placing weight on subjective insights obtained through qualitative judgments. Another finding that emerged in the interviews with librarians is that they are concerned about faculty and students' response to cancellation decisions and that these concerns appear to vary in intensity relative to their position in the organizational structure of the library. For instance, participants who worked in libraries embedded within a university faculty, such as Music or Business, where they would have developed close working relationships with faculty members, found it more difficult to cancel journals than participants in the multidisciplinary libraries. Consequently, librarians with close ties to faculty ranked quantitative ranking as well as measures such as usage and cost lower in importance in making cancellation decisions. In contrast, participants with fewer years of experience who are responsible for subject areas in which they had only general subject expertise, found it easier to base decisions on quantitative factors alone (Johnson and Cassady 2020).

Despite varying in terms of intensity, however, a fear of backlash from faculty regarding cancellation decisions appears to be a universal concern among the librarians we studied (Johnson and Cassady 2020). This finding is in keeping with previous observations indicating that big deal packages are "loved by members of the faculty who, understandably, prefer an information environment in which they have access to virtually everything," even though such access is unsustainable and detrimental to the overall financial well-being of academic libraries (Frazier, 2005, p. 51). Acknowledging this point reflects the fact that making cancellation decision is far more than a routine task of managing organizational budgets and collections, as it also involves the distinctly micro-political dimension of managing librarians' relationships with faculty and students. As Busby (2011, p. 19) cautions, "being the bearer of the *c* word (cancellations) has damaged many professional relationships with faculty members" and one can only imagine many careers.

6. Evaluation and Decision-Making in Social Context

As described in the previous section, the practices of unbundling big deal packages have been directed by EBLIP principles and approaches, which prioritize the use of quantitative data as evidence for decision-making. Specifically, predicated on the tenets of EBLIP, librarians use data and statistics as a means of justifying the cancellation of under-used journal titles. However, while making decisions based on data and statistics is supposed to simplify the cancellation process by grounding it in objective evidence, efforts of breaking apart big deal packages have been met with varying success. Previous accounts of this process reviewed above, indicate that the complexity of data and the limitations of the statistical measures and analytics tools used, the organizational context, social interactions and relationships, tacit knowledge, and even emotions (e.g., fear of student or faculty backlash) play a role in the unbundling of big deal journal packages.

We argue that this is because decision-making towards improving library services differs in crucial respects from decision-making in other domains—for example, in medicine, as the domain from which EBLIP principles and approaches were appropriated. Specifically, we argue, that while in medical decision-making there is often a single optimal solution to a given problem, library decision-making is more accurately described as what Bruch and Feinberg (2017, p. 209) call "decision-making processes in social contexts"— that is, processes "characterized by obscurity, where there is no obvious correct or optimal answer" to a given problem and thus processes in which decision making outcomes are highly susceptible to influence by the social and material context in which they unfold.

Our conceptualization of the practice of unbundling big deal packages as *decision-making in social context* aligns with the nature of these practices as presented in the accounts of professional librarians reviewed in the previous section. But furthermore, this conceptualization is also consistent with the way some of the leading thinkers in the EBLIP literature have come to characterize the EBLIP approach to library decision-making. In particular, recently, leading EBLIP scholars have ventured to problematize the nature of EBLIP practices themselves. These critical accounts demonstrate that the EBLIP approach to decision-making cannot be fully extricated from its practical context.

For instance, prior studies indicate that EBLIP decision-making could be based on an astoundingly broad range of quantitative and qualitative evidence. As Gillespie (2014) finds in her study of school librarians in Australia, evidence in EBLIP decision-making “can include work samples, a remark from the principal, feedback from teachers, observations made of or by students, borrowing statistics, benchmarks from local and reliable external sources, and personal reflection” (np.). Reflecting on this issue, Hjørland (2011) argues that determining what is the “the best evidence” in support of EBLIP decision-making depends on the epistemological position from which the question is approached. He further criticizes current applications of EBLIP decision-making for being rooted in positivist epistemology and thus unduly placing weight on quantitative evidence and on “ideals of control and objectivity” at the “expense of the practitioner’s experiences” (Hjørland, 2011, p. 1307).

Subsequently, a related debate in the EBLIP literature has focused on the extent to which social context and subjective factors such as intuition, instincts, and tacit knowledge should filter into EBLIP decision-making. In this line of thinking, Koufogiannakis (2012) makes a distinction between hard evidence vs. soft evidence. She defines hard evidence as objective data, e.g., statistics (p. 12). Soft evidence, on the other hand, is the experience and accumulated knowledge, opinion, and instincts of librarians (Koufogiannakis, 2012, p. 14). Likewise, Miller et al (2017) suggest that the success of EBLIP projects depends on “integrating available research evidence with professional knowledge” (p. 125) and furthermore observe that librarians often draw “upon intuitive forms of evidence to inform their practice” (p. 127). Similar observations have led Eldredge (2006) to propose that when engaging in EBLIP decision-making “librarians must reconcile the course prescribed by the evidence within the particular social, cultural, or political circumstances in which they function” (p. 341).

Alongside that, prior qualitative studies indicate that the application of EBLIP decision-making is not simply utility-oriented but also motivated by workplace politics. Partridge, Edwards and Thorpe (2010) observe that in many cases librarians use EBLIP evidence as a tool (or what they call a “weapon”) with which to sway their colleagues in supporting specific initiatives and projects (pp. 289-290). Likewise, Koufogiannakis (2013) shows that librarians used EBLIP evidence to identify a course of action and to subsequently “convince” their colleagues to support the proposed action.

As evinced above, while the EBLIP literature emphasizes evidence that can be quantified and measured, there is an acknowledgement that social, cultural, material, and political factors play a large role in decision-making. One way to account for this is to propose that enhancing the value and enabling the repurposing and reuse of information is based on judgements that by necessity are situational and context-dependent.

7. An Information Practice approach to the Unbundling of Big Deal Packages

As discussed thus far, the professional literature as well as critical EBLIP literature collectively provide basis for conceptualization of the practice of unbundling of big deal packages as *decision-making in social context*. Based on this conceptualization, we argue that in order to gain a broader understanding of big deal unbundling, we need to examine how social, cultural, and material factors intersect in the social context of practice. Because of the contested nature of unbundling projects, we also suggest that such investigation should examine how micro-political dynamics influence big deal unbundling projects. Another area is the extent to which quantitative data and statistical measures are the sole basis for cancellation decisions and how incommensurable values are evaluated.

The research agenda we propose for that is grounded in a line of sociological research that has sought to explain knowledge production, management, and use with recourse to empirical evidence of social behaviour and practices (Knorr-Cetina, 1999; Camic et al., 2011). Within these debates, we find specific anchor points in a literature that has been introduced in information studies under the rubric of practice theory (Huizing & Cavanagh, 2011; Cox, 2012).

Practice theory combines aspects from social, materialist, and cultural theories (Schatzki, 2001). For the purposes of empirical research, practice theory is useful in developing both causal and interpretive accounts of social phenomena by placing equal weight on understanding the situated experience of social actors and the structural features of their environment (Harré, 2001; Gross, 2009). We propose that studying the unbundling of big deal packages through a practice-theory lens has several advantages. As Camic et al. (2011) note, such an analytical focus could reveal previously unknown causal mechanisms and concealed regularities in knowledge-making practices (p. 8). In the context of our empirical focus, a practice-theory perspective is useful to examine the individual cognitive deliberations guiding evaluation and decision-making in unbundling practices while it also allows us to examine how the specific contextual features at different libraries—including their organizational dynamics, politics, and infrastructure—influence those processes.

To operationalize practice theory, we take as a conceptual starting point Schatzki's (2001) definition of practices as "materially mediated arrays of human activity centrally organized around shared practical understanding" (p. 11). This definition narrows the analytical focus to the social, material, and cultural elements of journal unbundling practices. We conceptualize the **social elements** broadly to include the institutional mission and identity, organizational structures, and workplace politics of academic libraries. We expect that organizational structures, and workplace politics will vary across academic libraries since different libraries will exhibit different institutional missions and identity and different organizational structures, which in turn would create different workplace politics expressed in the power-dynamics between management, librarians, faculty, and students. This assumption is supported by work in organization studies suggesting that organizations' institutional mission and identity correlate to their organizational structures, technologies, and practices (Lounsbury, 2008; Labatut et al., 2012). Comparing variance in the institutional missions and identity and different organizational structures of libraries thus provides one set of comparative evidence through which variances in unbundling practices across context can be explained.

Furthermore, we conceptualize the **material elements** of unbundling practice as the methods and tools librarians use in support of decision-making. We expect those to comprise a range of tools for quantitative data management and analysis including library use data, citation analyses data, and faculty and student survey data, as well as, decision-making methods and techniques such as decision-making trees, SWOT Analysis, and Cost-Benefit analysis, the application of which is widely reported in the professional literature. Following work in organizational studies we conceptualize these methods and tools as having agency in practice rather than being passive conduits of information (Orlikowski, 2008). We thus suggest that it is important to determine the extent to which they may or may not independently influence the decision-making process. Evidence that data and analytics tools are not only objective tools for evaluation but active agents that shape the nature of evaluation and consequently decision-making abound in current work in organizational studies, management, and consumer behaviour (Cochoy, 2008; Arjaliès and Bansal, 2018). Correspondingly, we suggest that it is necessary to identify not only the formal but also the informal "workarounds" emerging in situated practice (Gerson and Star, 1986; Alter, 2014). Workarounds are an important focus for our study as we view them as ubiquitous elements of information work, potential instances of creative acts, and as such, valuable sources for information systems and practice improvements (Alter, 2014 p. 1053).

The third element of our conceptual framework is the **cultural element**, or what practice theorists define as "practical understanding" (Schatzki, 2001, p. 11). This element of unbundling practices (and of information practices more broadly) eludes simple conceptualizations as it constitutes a complex, non-observational phenomenon. In the knowledge management literature, practical understandings are discussed under the rubric of "tacit knowledge," defined as "the personal knowledge used by [organizational] members to perform their work and to make sense of their worlds. It is learned through extended periods of experiencing and doing a task, during which the individual develops a feel for and a capacity to make intuitive judgements about the successful execution of the activity" (Choo, 2000, p. 395). We propose a conceptualization of "practical understanding" that builds onto the definition of tacit knowledge by drawing on work in cultural sociology, and in particular on the so-called *tool-kit theory of culture* (Swidler, 1986). From this perspective, practical understandings are seen as organized in cultural tool-kits (or repertoires) that are used by social actors to support and justify practical action (Swidler, 1986). They include the cultural codes, customary rules, norms, and epistemic values that support cognition by giving coherence and meaning to social action. Cultural tool-kits, as such, collectively constitute what DiMaggio (1997) calls "cultural frames of understanding" in practice (p. 265). This conceptualization is conducive to the goals of our project—and we believe to information behaviour and practice research more broadly—because it allows us to describe and categorize in a systematic manner the cultural tool-kits librarians use to justify journal unbundling decisions, making this set of evidence available for comparative analysis across organizational contexts. A comparative analysis, in turn, is warranted as previous theoretical and empirical work suggests that cultural tool-kits vary across contexts and environments (DiMaggio, 1997); hence, we can reasonably expect them to vary across the context of the case-study sites we will examine.

8. Discussion: Alignment with Information behaviour and practices research

Adopting the research agenda outlined in the preceding section in information studies is both empirically and theoretically warranted because conceptually how librarians evaluate and decide what journal titles to cancel or keep falls within the domain of information behaviour, concerned with “the totality of human behavior in relation to sources and channels of information” (Wilson 2000, p. 49). Prior information behaviour studies have examined how users determine the relevance and credibility of information sought for personal use (Wilson, 1983; Rieh, 2002). The evaluation and decision-making practices we focus on, however, are markedly different from those studied by prior work as they occur within the institutional framework and rules of formal organizations (libraries); the boundaries of a community of practice (librarianship); and perhaps most distinctively, involve making evaluations and decisions about information on behalf of a large, heterogeneous community of users with diverse information needs (faculty and students). The goal of this article thus is to provide a conceptual framework for studying the evaluation and decision-making practices of librarians that is attuned to the organizational context of their information behaviour. Doing so allows us to remain analytically sensitive to how context shapes information behaviour (Courtright, 2007) and also contribute to the project of developing an information-based view of organizations (Choo, 2006).

A closer look indicates that the analytical focus on the social, material, and cultural factors characteristics of the research agenda we are proposing aligns with major currents in information behaviour research. Much of information behaviour research since the 1980s focuses on the psychological and sociological factors as they relate to information needs, seeking, and use (Pettigrew et al., 2001). Virtually all major theoretical models of information behaviour developed in this period consider cognitive, affective, and situational dimensions of information behaviour (Case and Given, 2016, pp. 141-176). And it is within this growing literature, that the concept of information began to be discussed and studied simultaneously as social, material, and cultural object of analysis (Buckland, 1991).

The study of information behaviour in organizations during this period also put forward theoretical and empirical arguments for linking information behaviour with organizational learning, knowledge creation, and decision-making (Choo, 2006). Central to this research is a view of organizations as “interpreting systems” functioning through socio-cultural mechanisms such as sense-making, evaluation, and interpretation of information and a emphasis on the constructive role of tacit knowledge in information behaviour (Choo, 2006). Parallel to these developments, information scholars began studying information behaviour in a strictly non-utilitarian, everyday-life settings (Savolainen, 1995). This expanded empirical focus increased the range of potential contextual factors that count as variables in explaining information behaviour. As a result, it became ever more necessary to analytically differentiate how context influence information behaviour in science, everyday-life, or organizations. This led to the emergence of the so-called information practices orientation. This stand of research claimed as its key contribution that it goes beyond the classical remit of information behaviour research, where "dealing with information is primarily seen to be triggered by needs and motives", and to approach how people interact with information as process of "continuity and habitualization of activities [that are] affected and shaped by social and cultural factors" (Savolainen, 2007, p. 126; Case and Given 2016, pp. 99-100).

Most recently, interest in the nature of information practice has been expanded by the work of scholars who have turned their attention to a new theoretical construct: *information experience*, understood as "the way in which people engage and derive meaning from the way in which they engage with information and their lived worlds as they go about their daily life and work" (Bruce et al 2014, p. 6). Conceptually, these developments are part of the broader agenda of introducing phenomenological approaches in information behaviour research (Budd, 2005), which remains of enduring interest to the discipline (e.g., Gorichanaz et al., 2018). The overarching framework of the research agenda we propose advances the effort of thinking through the nature of information practices and experience of librarians by analyzing the social, material, and cultural aspects of their work.

We further propose that pursuing the research agenda proposed in this paper also carries implications for practice. In particular, we suggest that adopting this agenda for empirical research will provide valuable answers about how the organizational context, material infrastructure, evaluative tools, and micro-political dynamics in a given library filter into librarians' evaluation and decision-making. This will enhance the way we understand the nature of library work, similar to the ways a practice-based lens has revolutionized the understanding of other types of professional knowledge work that pivots on evaluation and decision-making—e.g., strategic management (c.f. Golsorkhi 2015). A practice-based lens can furthermore help us understand how librarians can better integrate societal issues in their evaluations and will allow us to understand how and when qualitative judgments should be integrated in evaluation and decision-making to enhance, rather than impinge on, the objectivity of these processes (c.f. Arjaliès & Bansal, 2018).

Producing new knowledge that sheds light on what library evaluation and decision making are as a practice, thus, allows us to contribute to our understanding of the competencies and skills contemporary librarians need to perform their work. This will provide a basis for developing more effective means for carrying out such projects and for enhancing the ways we teach such topics to future librarians. Lastly, but importantly, studying evaluation and decision-making in big deal package unbundling also has epistemic and societal implications. This is because undue cancellation decisions could marginalize smaller, niche areas of knowledge or stem the development of new, fringe areas. Big deal unbundling projects are, as such, a type of library practice that deserves more attention that has thus far received. But—as we argue in this paper—without actually going inside these complex projects to try to understand how they work in practice, we are left to speculate about what does and what does not make them successful.

Conclusion

This article developed a research agenda for studying the evaluation and decision-making practice of librarians' attempting to unbundle big deal journal packages. To this end, we introduced concepts to account for this phenomenon and provided a practice-based framework for studying it as a social, material, and cultural object of analysis. Furthermore, to highlight the place of this research agenda in the broader context of information studies, we positioned our ideas into the broader framework of information behaviour research. We conclude the paper by proposing that the study of evaluation and decision-making practices of librarians can be advanced further through comparative studies across national and institutional contexts, which is the approach taken in the study of evaluation and valuation in sociology and other fields (Lamont, 2012). We are currently actively pursuing this research agenda, through the methods of organizational ethnography, in a multi-case study project of successful and unsuccessful big deal unbundling projects in Canada.

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