

What counts as a good selection?
E-book product selection in the U.S. academic libraries

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Abstract

In this dissertation I studied how academic librarians select e-book products, emphasizing the decision-making processes they used to make purchasing decisions. My dissertation contains two parts: (1) a meta analysis of selection models from both library and consumer research literature, and (2) interviews with e-book selection librarians. In the first part, I chose eight models: four for library books, two for library e-journals, and two for individual consumers to evaluate bundled products. I compared these in terms of principles and goals, criteria or processes they included, and transferability to e-book selection. My analysis reveals that the model strategy is moving towards semi-institutionalization, reflecting their creators' effort to be more rational actors in the selection decision-making process under pressure of being trusted stewards of public money. I then developed a conceptual model for e-book selection containing both process and variance model elements.

In the second part, I reported results of interviews with 20 e-book selection librarians from 19 different libraries or library consortia, focusing on their selection processes. I used Nutt's decision-making process model as the framework to capture variations in my participants' processes, distinguishing five different process models depending on the stages activated in the decision processes. I then investigated the strategies my interviewees used to justify their decisions. Further, I distinguished two groups of decision-making behaviors described by my interviewees- the actions that fit with the institutional model, and the actions that fit with the rational actor model. I then discussed the potential factors that could help explain these two groups of actions. Specifically, the factors that drove interviewees' adoption of institutional actions include: non-competitive library e-book market, decision-makers' uncertainty about what counts as a good e-book product, and professionalism in library community; and the factor that

drove interviewees' adoption of rational actions include decision-makers' encountering a new situation, their perceptions of their job responsibility to preserve scholarly communications, and their relationship with providers.

I also examined the selection criteria discussed by my interviewees. I first provided an overview of these selection criteria, by dividing them into two categories: criteria used for purchasing new products, and criteria used for making retention decisions. I then closely examined four criteria that were not fully explained in earlier studies, including: content, perpetual access, copyright of embedded multimedia, and relationship with providers. I discussed the connections between my findings on selection criteria and the ideas learned from the two marketing models.

Finally, I proposed a refined model by combining the findings from model analysis and interviews, which provides a more comprehensive view of librarians' decision-making processes of e-book products.

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Chapter 1: Introduction

1.1 Problem Statement

Over the past several years, the popularity of e-books for reading has resulted in their increased prevalence in academic libraries. According to *Library Journal's 2012 Survey of E-book Usage in U.S. Academic Libraries*, 95% of academic libraries provided e-books to their patrons (Library Journal & School Library Journal, 2012). Four year later, *Library Journal* launched another similar survey to revisit e-book usage in academic libraries and revealed that the average number of e-books offered by academic libraries (258,957, with a median of 47,183) has increased sharply when compared to the data obtained from the survey in 2012 (91,900, with a median of 35,500 (*Library Journal & School Library Journal*, 2016)). Another report from the U.S. Department of Education's National Center for Education Statistics (NCES) describes the expansion of e-book collections in academic libraries during the fiscal year of 2012. This report indicates that the number of e-book titles added by all academic libraries in 2012 reached more than 52 million. This number is about twice that of newly added print materials, including print books (Phan, Hardesty & Hug, 2014). In addition to managing increasing e-book collections, the findings from another nationwide survey also indicate that the budgets for e-books in academic libraries will keep growing for the foreseeable future (Long & Schonfeld, 2014). Interestingly, the *Library Journal's 2016 Survey of E-book Usage in U.S. Academic Libraries* found that the mean of spending was less than the mean of spending revealed in the 2012 report, while the median of the spending in 2016 was more than the one in 2012; and therefore, this report concluded that academic libraries' spending on e-books was "somewhat flat" (*Library Journal & School Library Journal*, 2016, p.57).

Despite desires to maintain and expand e-book collections, academic libraries have limited purchasing power. On the one hand, academic libraries' budgets for library resources have remained flat or even declined in the past few years. A comparison of the statistics from NCES surveys in 2010 and 2012 shows that the average budget academic libraries spent on all information resources increased about 1.2% in 2012 (Phan, Hardesty & Hug, 2014; Phan, Hardesty, Hug & Sheckells, 2011). On the other hand, articles reveal that the prices of library e-books are not always cheaper than their print counterparts; furthermore, scholarly e-book prices continue increasing (Anderson, 2010; Bailey, Scott & Best, 2015; Walters, 2011). Therefore, academic libraries, even those with the most generous budgets, cannot purchase all the e-books that are available in the market. Consequently, academic libraries must make selection decisions to build their e-book collections within their budgets. It is also important for librarians to demonstrate that they make a "wise" selection of the e-book products they pay for, especially considering their fiscal constraint.

Although library scholars and professionals have long studied librarians' selection processes for printed books, it is unclear to what degree these previous experiences compare to the selection processes for e-books, because e-books are not just the digital version of printed books. Digital technologies introduce additional attributes or features into e-books, many of which are not addressed in prior selection practices for printed books.

Specifically, the major attributes introduced by digital technology to library e-books include:

- 1) Access models: libraries obtain an e-book either through a subscription model or purchase model. The subscription model provides access of e-books to libraries only for the period of payment; once libraries cancel the subscription, then they lose access to these e-books.

The purchase model is similar to that of purchasing a printed book, which allows libraries to maintain permanent access to the e-books they purchase (Levine-Clark, 2014; Roncevic, 2013; Simon, 2014);

2) Number of simultaneous users: libraries might provide an e-book to only one user at a time, to a specific number of multiple concurrent users, or to unlimited concurrent users (Armstrong & Lonsdale, 2005; Collins, 2012; Levine-Clark, 2014);

3) Digital rights management (DRM): different DRMs establish different limitations on library patrons' actions when reading e-books such as limiting copying, printing, or downloading, or they enforce libraries' re-purchase of e-books by imposing loan-caps to regulate the times a library e-book can be checked out (Lessig, 2006; Novak, 2013; Roncevic, 2013);

4) Ability to select individual titles: some e-book products allow librarians to select individual e-books while other products provide e-books to libraries as a package without title-level selection options (D'Agostino, 2010; Palmer, 2011);

5) Library patrons' involvement: patron-driven acquisition (PDA) allows libraries to purchase the e-books their patrons have read, and different PDA models vary in terms of the trigger events, librarians' mediation, and the MARC records uploaded into the libraries' catalog (Goedeken & Lawson, 2015; Polanka & Delquié, 2011).

As those additional attributes discussed above add more variations to library e-book products, they therefore complicate the selection of e-books. Based on their experiences of selecting e-journal packages, academic librarians are familiar with some of these attributes, such as the variances in access models, DRM, and providers. However, they must still deal with some e-book attributes that are uncommon in their e-journal selection practices. My pilot study on

¹ I define "e-book product" in the Section 1.2.

librarians' selection processes for e-book products finds that the interviewees, including those from academic libraries, were unable to describe their e-book selection process (Zhang, 2013). Due to the very limited data collected, I decided not to go any further in examining the selection process in my pilot study. Nevertheless, it is very interesting to explore the reasons for the interviewees' inability to describe a procedure. One explanation is the absence of formal written documents. If there were any relevant written documents, it would be easy for librarians to refer to the documents and then explain the selection process step by step to me. However, it should be possible to describe a regular process, even if it is not written down. This may suggest the lack of a regular process. Perhaps the process is complex and irregular, which challenges the interviewees to recall and then describe it. Additionally, lack of sufficient experiences with e-book selection could also cause participants' inability to describe their selection process. The complex nature of the e-book selection process suggests more room for further study. The pilot study results indicate a need to explore the multiple factors and steps involved in the selection process, which will help librarians to establish a more clarified and consistent e-book selection process.

Another important factor affecting libraries' e-book purchasing decisions is price, which adds an additional layer of complexity to librarians' selection practices. Particularly, e-book providers have developed multiple pricing models, and most of those models are closely tied to other attributes of e-books, such as the access models or the number of concurrent users, which are often selection criteria librarians employ to make their purchasing decisions (Besen & Kirby, 2014). In other words, price, as a selection criterion, is also interrelated to other selection criteria. Due to the complex nature of price in librarians' selection processes, it is important to examine

how librarians balance price and other related selection criteria when making decisions for purchasing e-book products.

Often lacking in theoretical focus, most of the current literature on library e-book selection practices focuses on empirical studies emphasizing local situations. Therefore, current research does not fully explain the “how” and “why” questions regarding e-book selection criteria and selection processes. Thus, it is impossible to create a set of generalizable assertions about e-book selection practices that can be applied to a much broader range of specific instances. The absence of a theoretical basis in most of the literature encourages me to explore potential theories that can be used to explain and even predict academic librarians’ decision-making processes when purchasing e-book products. Another important but unanswered theoretical question lies in the relations between public and private interests. Some scholars argue that academic libraries play a critical role in delivering public goods through providing their patrons access to as much scholarly information as they can (Bailey-Hainer & Forsman, 2005; Courant, 2008; Courant & Jones, 2015; Maskell, 2008). However, digital technologies, particularly DRM and licensing, limit libraries’ ability to support public good. My dissertation studies how the library’s traditional mission of supporting the public good has been changed and negotiated when the types of major library resources have shifted from focusing on physical objects to accessing digital information and then explores how librarians justify their selection practices to demonstrate that they are trusted stewards of public money. In this study, I employed theoretical concepts from institutional theory and decision-making process theory to better understand librarians’ e-book selection practices, including the context in which they made decisions, the different steps activated in their decision-making processes, and how they justified their decisions. An overview of these theoretical frameworks is in Section 2.5 and Section 5.3.1.

1.2 Key Terms and Definitions

This section defines key terms that are important to this dissertation.

E-book: “[d]igital documents, licensed or not, where searchable text is prevalent, and which can be seen in analogy to a print book (monograph). The use of eBooks is in many cases dependent on a dedicated device and/or a special reader or viewing software” (NISO, 2013). In this study, e-books include e-monographs, e-reference books, and e-textbooks.

E-book package: Within an e-book package, e-book titles are bundled together when provided to libraries; also, libraries cannot choose individual titles within an e-book package.

E-book product: It difficult to provide a precise definition of the term e-book product to cover all the variances in current e-book products. For the purpose of this dissertation, I use a very vague definition - “a product that contains multiple e-books, and that can be licensed as a whole,” followed by descriptions of more detailed attributes of an e-book product:

(1) An e-book product is a broader term than e-book package. In this study, I decided that an e-book package is a type of e-book product; therefore, each e-book package is an e-book product. For instance, the *American History -2015* from EBSCO is an e-book package because all the titles are pre-selected and bundled together, and, thus, it is also an e-book product. In addition to package, there is another type of e-book product, which I define as the “bounded-title selection” product. This type of e-book product allows libraries to make title-level selection within a collection of e-books. An example of this type of e-book product is the *Safari Books Online* from ProQuest, which allows libraries to add or swap individual e-book titles during the subscription period. Based on this definition, both patron-driven acquisition (PDA) and evidence-based acquisition (EBA) fall into the category of e-book products.

(2) An e-book product could contain other types of materials in addition to e-books. This is especially important for certain disciplines, such as medicine, in which most of the e-books are bundled with e-journals. Based on this rule, the *ClinicalKey* from Elsevier, which contains not only e-books in medicine areas, but also e-journals and videos, can still be treated as an e-book product.

(3) It is possible that one publisher or aggregator could have more than one e-book product. For instance, ProQuest provides multiple e-book products to academic libraries, including but not limited to *MyiLibrary*, *Academic Complete*, and *Safari Tech Books Online*.

(4) An e-book product should be distinguished from the platform that provides access to e-books and other digital resources. One example of a platform is ScienceDirect from Elsevier, which provides access to multiple e-book products, such as *College Edition Books* and *Legacy eBook Collection*.

(5) An e-book product will not include e-book collections that are available through open access, such as Project Gutenberg and HathiTrust.

The descriptions listed above provide a list of important attributes of e-book products. However, those descriptions cannot replace a rigid definition of this term. In order to help the readers of this dissertation better understand what counts as an e-book product, I provide a list of e-book products mentioned by my interviewees in Appendix I.

E-book provider: It refers to publishers or aggregators that supply e-book products to libraries.

Perpetual access: Based on Zhang and Eschenfelder's (2014) definition of e-journal perpetual access, I define e-book perpetual access as the ability of libraries to obtain continuing access to subscribed e-books after the termination of subscription regardless of access charge or

location of e-books. Therefore, if an e-book product is obtained through subscription but is also provided with perpetual access, I treat this product as under the purchase model. If an e-book product is obtained through subscription but without perpetual access, then it is under the subscription model.

Library consortium: I use the definition from the U.S. Code of Federal Regulations (CFR) (2016, Section 54.500) as “any local, statewide, regional, or interstate cooperative association of libraries that provides for the systematic and effective coordination of the resources of schools, public, academic, and special libraries and information centers, for improving services to the clientele of such libraries.” A practical definition of a library consortium as used in this dissertation can be found in Section 3.3.2.2.

1.3 Multiple layers in library e-book acquisition

In this section, I describe different layers of variations in library’ acquisition of e-books, including providers of e-books, how to purchase e-books, and different types of licenses. I then argue that combinations of all these variations make librarians’ selection processes more complicated.

1.3.1 Providers of e-books: From whom libraries acquire e-books?

Academic libraries often obtain their e-books from three sources: publishers, aggregators, and approval vendors. I describe them below.

(1) Publishers: they only provide e-books that are published by themselves. The publishers working as e-book providers include both commercial publishers, such as Springer, Wiley, Elsevier, McGraw-Hill, and Brill, and some not-for-profit publishers, mainly large

university presses, like Oxford University Press (OUP), Cambridge University Press (CUP), MIT Press, University of California Press, and American Chemical Society.

(2) Aggregators: they provide e-books from multiple publishers. Based on the subject areas their e-books cover, aggregators can be further divided into two categories: cross-field aggregators, who provide e-books from multiple disciplines, and subject aggregators, who provide e-books within certain disciplines. The major cross-field aggregators not only include some commercial vendors, like ProQuest, EBSCO, and Gale but also include some aggregators focusing on university presses, like ProjectMUSE, and JSTOR, both of which provide e-books from university presses and scholarly publishers. There are also two special cross-field aggregators: OUP and CUP. Both of them work as publishers-aggregators by providing e-books from their own presses as well as e-books from other university presses.

Similar to cross-field aggregators, subject aggregators also include commercial vendors and not-for-profit vendors. For instance, some commercial subject aggregators include but are not limited to Rittenhouse, providing e-books in medicines and Safari and Knovel, offering e-books in computer and engineering, while a few special aggregators come from non-profit vendors like American Council of Learned Societies (ACLS), aggregating humanities e-books from multiple publishers.

(3) Approval vendors: they do not produce any e-books; rather, the approval vendors work as brokers between aggregators/publishers and libraries by helping libraries “manage the complex processes of ordering e-books from multiple sources, managing duplication across those sources and with print books, and managing the provision of discovery records to allow access to all that content” (Levine-Clark, 2014, p. 195). The two major approval vendors in the e-book market were YBP from Baker & Taylor and Coutts from Ingram, both of which have been

recently acquired by different aggregators: YBP was acquired by EBSCO in 2015 and now is part of its GOBI Library Solution; Coutts was acquired by ProQuest in the same year. Regardless of these acquisitions, I do not treat these approval vendors as e-book providers in my dissertation because they do not directly provide their own e-books to libraries. Therefore, the e-book providers in this dissertation only include publishers or aggregators, as defined in the previous section.

One important thing to note when discussing the major providers of e-books is consolidation among the providers. In the past a few years, this consolidation occurred both horizontally and vertically. Horizontally, some major aggregators acquired or merged with other aggregators. For instance, ProQuest acquired ebrary, EBL, and MyiLibrary, all of which were previously major e-books aggregators. Along with the horizontal consolidations, vertical consolidations also occurred among the vendors providing different types of services, like those two acquisition cases discussed in the previous paragraph, where two major e-book aggregators acquired two main approval vendors. With the industry consolidations, the total number of e-book providers decreased; several librarians expressed concern that these consolidations might lead to a less competitive market (Morris, 2013).

1.3.2 Individual titles vs. bundled acquisition: How do library acquire e-books?

There are two different ways for libraries to obtain e-books, either as individual titles or through e-book products. In the first model, libraries choose individual e-book titles and, therefore, do not have to pay for the titles they do not want. In the second model, e-books are bundled together as a product by publishers or aggregators. Based on my definition of e-book product as outlined in the previous section, there are two subtypes of e-book product: e-book packages, where e-book titles are bundled together when provided to libraries, making libraries unable choose individual

titles within an e-book package, and bounded-title selection product, where libraries can make title-level selections within a collection of e-books, like PDA or EBA. However, in both types of e-book product, libraries still have less freedom to choose individual titles when compared with the individual title selection model, because they can only acquire titles that are provided in the product.

1.3.3 Individual library and library consortium: Who is the licensee?

Libraries can choose to acquire e-books by themselves, or they can join a consortium to acquire e-books. The major advantage of consortial purchasing is that with greater purchasing power built from the consortium, library members might obtain better license terms than those they could obtain as individual libraries; however, the main challenge of consortial purchasing is to balance the needs among member libraries (Swindler, 2015).

1.3.4 Complex environment for library e-book acquisition

As discussed above, libraries have multiple ways to acquire e-books: they can acquire e-books from publishers, or aggregators; they can acquire e-books individually or purchase them at the product level; or they can join a library consortium or work by themselves to acquire e-books. Besides, librarians have to consider the variations in the access model (subscription vs. purchase) and DRM imposed on e-books, as I noted in the Problem Statement. The combination of all these variations provides multiple options for librarians to build their e-book collections on the one hand but also makes their selection process more complicated on the other hand. Figure 1-1 depicts different layers of variations that librarians need to consider when making e-book selection.

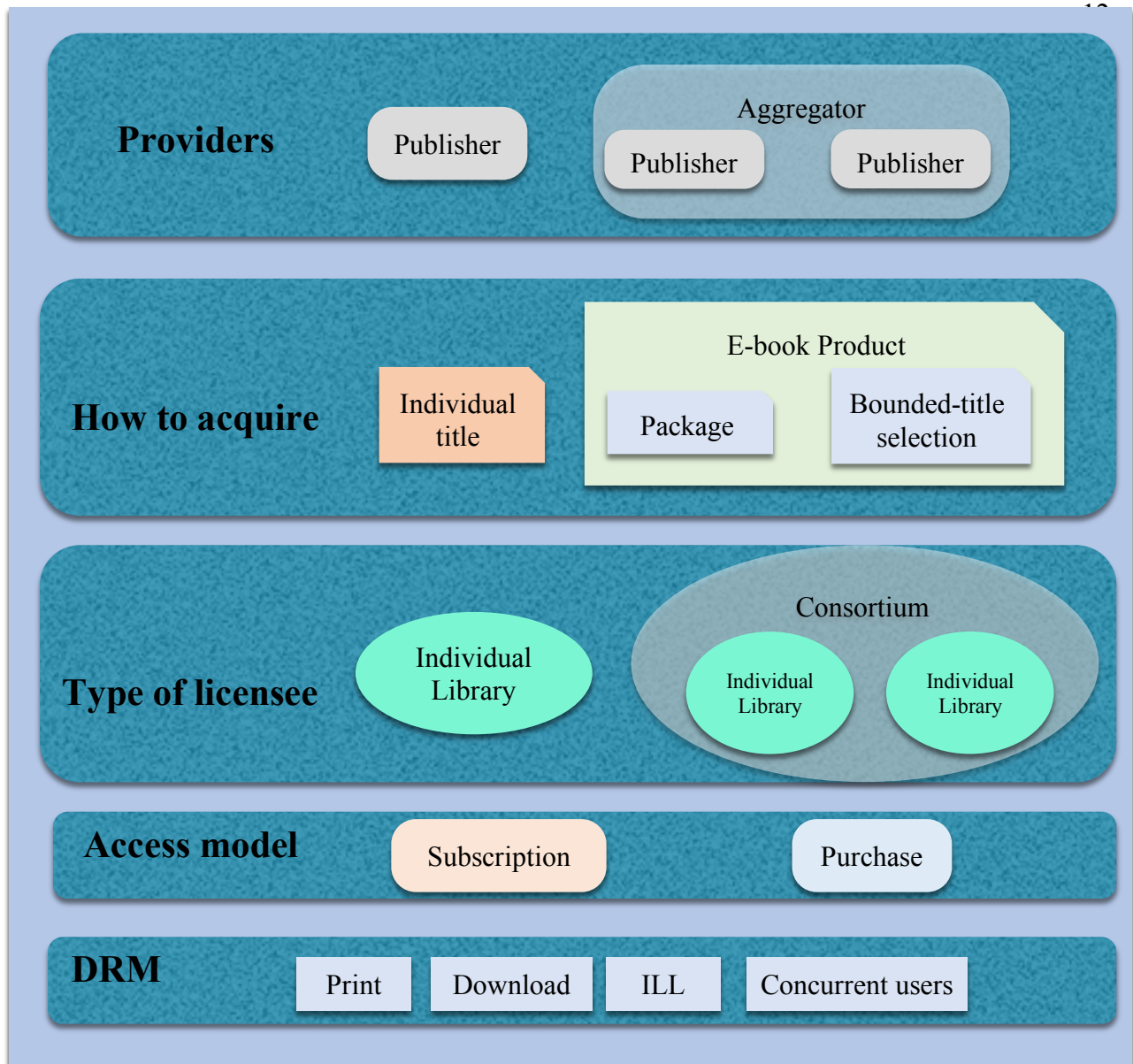


Figure 1-1: Multiple layers of variations in library e-book acquisition

1.4 Research Questions

My dissertation investigates a high-level question about academic libraries' selection practices of e-book products. In this dissertation, I only focus on academic. Also, I only study the selection on the product level, which means I do not investigate librarians' selections of individual e-book titles.

Specifically, I examine the following more specific and answerable questions in this dissertation.

1) Selection model question: To what extent could the selection models used in other situations be applied to the libraries' selection of e-book products?

I answered this question in Chapter 4. Specifically, I examined selection models developed in three other situations: selection models used for libraries to purchase print books, selection models used for libraries to purchase e-journal packages, and selection models used for individual consumers to purchase bundled digital products. The examination of this question, on the one hand, helps to capture the similarities and variations in library selection practices regardless of the format of resources being selected; on the other hand, it provides new perspectives learned from the marketing literature that library scholars and professionals might use to better understand the selection practices of e-book products.

2) Decision-making process question: What are the decision-making processes academic librarians use to purchase e-book products?

I answer this question in Chapter 5, where I investigate the different stages activated in academic librarians' decision-making processes mentioned by my interviewees. Through this examination, I reveal similarities and variations across the decision-making processes and explore the potential reasons that may explain the variations among those decision-making processes. Further, I examine how librarians justify their purchase decisions by studying the context in which they made decisions and then discussing the tactics they used to defend their decisions.

3) Selection criteria questions: What criteria do academic librarians employ to select e-book products? Do librarians prioritize their selection criteria? If so, how do they prioritize each of the criteria? Do the selection criteria and their prioritization vary in terms of

- different subject areas?
- different sizes of academic libraries based on their collections?
 - different types of library: individual library vs. Library consortium?

These questions focus on examining the selection criteria used for purchasing e-book products. I answered these questions in Chapter 6, and I paid special attention to criteria that have not been fully explained by other studies.

1.5 Methodology

In this dissertation, I used two methods to address the research questions outlined above: 1) structured analysis of selection models and 2) interviews with selection librarians in academic libraries or library consortia. Specifically, in the first part of my dissertation, I use structured analysis of selection models from library and consumer research literature to investigate the transferability of those models to library e-book product selection practices. I systematically analyze four models for selecting library print books, two models for selecting library e-journal packages, and two models of individual customer evaluation of bundled digital products. I used Mohr's distinction between variance theory and process theory to frame my analysis of those selection models.

In the second part of my dissertation, I conducted one-on-one interviews, either face-to-face or by the phone, with 20 librarians from 19 different institutions about their e-book product selection practices. To capture the variations in librarians' selection practices, I recruited these interviewees based on different aspects of their home institutions: type of library (individual

library vs. library consortium), size of library (large vs. small), and subject area (humanities vs. medicine). Detailed information about the recruitment of interviewees can be found in Section 3.3.2. My analysis of the interviews focuses on the decision-making processes used by my interviewees to purchase e-book products. Based on the interview data, I also discuss the selection criteria used by my participants to make e-book purchase decisions.

1.6 Contributions of This Dissertation

My dissertation has several potential contributions in theoretical, methodological, and practical aspects. Theoretically, my dissertation will add to organizational behavior theory and decision-making theory by distinguishing different types of decision-making processes employed by selection librarians in different circumstances. Particularly, by introducing Nutt's five-stage decision process to this study, I distinguish five decision-making process models used by librarians to purchase e-book products. These models will work as frameworks to help researchers and other stakeholders understand the complex decision-making processes that go into libraries' purchases of e-book products.

Methodologically, my dissertation will provide new ways to understand librarians' selection practices of e-book products. First, I developed an eight-question framework to analyze the selection models used in other situations. This framework not only helps me compare those models in a systematic way but also allows me to concentrate on the most important aspects of those models that are relevant to e-book product selection. Further, the analysis of those models demonstrates the linkages between e-book selection and other selection practices. Therefore, it suggests that researchers and librarians avoid isolated examination of e-book selection; rather, a study that associates e-book selection with a more broader selection practices will help us better understand the origin, as well as the changes of the e-book selection practices. Second, I

introduced the visual elicitation method to my interviews, in which I asked my participants to draw a picture to describe their selection practices. With the assistance of this method, all my participants were able to articulate the complex processes of their selection practices. Therefore, this visual elicitation approach can be used in other similar studies requiring participants to describe a complex process. Third, I propose a conceptual model to depict detailed selection practices for purchasing e-book products. While this conceptual model includes both criteria components and process components, it also distinguishes two types of processes: the macro process and the micro process. Therefore, this conceptual model will work as a tool for librarians and researchers to develop a more comprehensive understanding of librarians' selection practices.

Practically, my dissertation will contribute to the practices of librarians who must make decisions about purchases of increasingly complicated packaged digital products. Specifically, my discussions on the transferability of selection models used in other situations will provide new ideas to librarians that may further improve their selection practices. Moreover, my work on the decision-making processes of e-book purchasing, along with my exploration of the strategies used by my participants to justify their decisions, will allow librarians to better understand the contexts that affect their decision-making processes and the specific steps that could be activated in those processes; thus, these findings will further encourage librarians to reflect on their own decision-making processes. These reflections will then assist librarians in their efforts to act as trusted stewards of public money under financial pressure by making them feel more confident that they are making a good e-book purchase decision.

1.7 Organization of This Dissertation

In Chapter 1, I provided an overview of the problem statements, definitions of key terms, multiple layers of variations in library e-book selection processes, research questions, a snapshot of the methodology, and the implications of my dissertation study. In Chapter 2, I review the relevant literature on libraries' selections of e-books and the limitations of the literature. I also provide an overview of the theoretical frameworks - institutional theory and Nutt's five-stage decision-making process model - that I employed to analyze the findings of this study. In Chapter 3, I describe the detailed methodologies for research design, data collection, and data analysis, followed by a discussion of the limitations of this study in terms of research methodologies and the strategies I used to minimize those limitations. In Chapter 4, I report findings from the systematic analysis of selection models used for selecting library print books and e-journal packages and models for individual consumers to select bundled digital products. In this chapter, I also examine the institutionalization stages of two strategies used by librarians when selecting e-book products: simple-criteria strategy and model strategy. In Chapter 5, I report the findings from the interviews, focusing on the decision-making processes described by my participants. Specifically, I first examine the contexts my interviewees perceived when making e-book purchasing decisions; I then use Nutt's five-stage decision-making process model as the analysis framework to investigate the critical variations in the decision process amongst the 54 cases provided by my interviewees. I further explore the strategies my interviews used to justify their decisions. In Chapter 6, I investigate the selection criteria used by my interviewees to make e-book product purchasing decisions, while focusing on the criteria that are not fully explained in previous studies. In Chapter 7, I concluded, and proposed some future projects to further extend the scope of my dissertation.

Chapter 2: Literature Review

In this chapter, I review the relevant library science literature on library e-book selection practices and introduce the theoretical frameworks from the institutional theory that I used in this dissertation. The literature is drawn from library science databases, such as Library & Information Science Source, LISA: Library and Information Science Abstracts, Library Information Science & Technology Abstracts (LISTA), and ProQuest Dissertations & Theses Global. I looked for articles using the keywords ("e-book" or "electronic book" or "ebook") AND select* AND librar* in the years 2000-2018. I also searched for relevant books from the UW Libraries catalog. In this chapter, I first provide an overview of the literature I found on the criteria used in both public libraries and academic libraries to select e-book products. I then summarize the literature on selection processes for e-book products and review the current studies on how to develop a written document to guide libraries' selection of e-book products. Then, I explain the limitations of current studies on e-book selection and how this study contributes to the existing literature. Finally, I introduce the concepts of "institutionalization" and "institutional isomorphism" from institutional theory, and explain how I employed them in this study.

This chapter does not include a review of selection models of print books, e-journals or e-books. I define selection models as models that libraries use to determine whether to choose certain print books/ e-journals/ e-books while including different variables and the measurement of each variable or different steps of using these criteria. As I show in this chapter, the literature currently does not contain well-developed selection models for e-books. While many articles discuss selection, they do not present explicit variable measurements or chronological order of

how to use these variables. As described later in Chapter 3, I systematically analyzed, compared and critiqued the current selection models used by the library to acquire print books and e-journals. I also compared two models from consumer research literature for individual consumers to select bundled products.

2.1 Selection Criteria for e-books

Selection criteria, which can be seen as the core of the selection process, establishes the rules for a library to choose one resource over others. Articles show both similarities and differences in selection criteria of public libraries and academic libraries for e-books. Machovec (2013) claims that public libraries and academic libraries adopt different selection criteria largely due to the “historic differences in publishing and distribution for scholarly and popular monographs” (p. 391). Therefore, in the next section I first provide a brief overview of the selection criteria used for e-books in public libraries, and then I examine the current literature on selection criteria for e-books in academic libraries. The third section provides an overview of the selection criteria for e-books used in library consortia.

2.1.1 Selection Criteria for e-book products in Public Libraries

Not many articles in the literature discuss the criteria used for selecting e-book products in public libraries. A major reason for this limited literature could be the current market share of e-book products for public libraries: OverDrive has market dominance, so public libraries in the U.S. often have very few options from which to choose (Block, 2012; Losinski, 2012). I found only a small number of articles discussing the e-book selection criteria and process in public libraries, and the criteria they most discuss are content and technology. I address each below.

2.1.1.1 Content

This “content” criterion for e-book products requires librarians to select materials that users want. According to *Library Journal and School Library Journal*'s 2012 e-book surveys, the top two factors influencing public libraries' decisions to select e-books are: projected usage/high demanded titles/bestsellers (76%), and user request (75%) (*Ebook usage*, 2012). Palmer (2011) also finds some public libraries put the users' demands as one important criterion for selecting e-books in their libraries.

The content criterion in e-book product selection practices also requires librarians to pay attention to the availability of e-book titles for library purchase within a larger e-book product, because the availability of e-book titles varies between individual customers and library purchasers. Although publishers often hold back their new titles in e-books for individual purchase to protect their sales of print books, they may have even longer embargoes on library e-books, as the e-book consumer market is separate from the library market. Consequently, e-book titles that are available for personal purchase are not always available to libraries (Kenney, 2013; Oder, 2010). Publishers adopt multiple strategies to limit their e-books' availability for library lending: some publishers delay their e-books' availability for libraries via embargoes; some only allow parts of or even none of their e-books to be used for library lending; and some only provide their e-books to certain aggregators, who then resell them to libraries as part of larger e-book products that contain many titles (Chant et al., 2013; Enis, 2012; Hjerpe, 2014; Losinski, 2012; Polanka, 2012; Wicht, 2006). Since most individual e-books are only available to public libraries as part of a larger e-book product that contains many titles from multiple publishers, the individual titles included in an e-book product may be of varying quality and popularity. Some public libraries therefore prioritize the e-book products that have a greater breadth of availability

of publishers' content. Baker (2014) puts the availability of content as the first selection criterion for e-book products. The Southeaster Ohio Automation Consortium explains their choice of OverDrive as an e-book provider with reference to its "wide range of titles" (*Ohio Consortium*, 2004, p. 28).

The literature describes how public libraries have taken joint efforts to encourage publishers to improve e-book availability to public libraries. For instance, the American Library Association (ALA) has developed a scorecard to guide public libraries in evaluating and negotiating license terms for e-book products. This scorecard points out that one important feature is "inclusion of all titles." By including this feature on the scorecard, ALA suggests that public libraries should value e-book products that contain a breadth of e-book titles available for library lending (*Ebook Business models*, 2013).

2.1.1.2 Technology

Another important selection criterion, which is closely related to users' needs, is technology. Palmer (2011) categorized the users into three groups by their modes of access: remote users, mobile users, and people who can only get access to e-books in libraries. Palmer argued that libraries should examine the different technological needs of those users, including digital file format, digital rights management (DRM), platform, authentication, and security.

Among all these different aspects of technology, the compatibility of e-book formats has been most discussed by librarians and researchers. Since the rapid increase of e-book collection in public libraries is largely due to the "explosion in e-reader sales," it is critical for public libraries to provide compatible e-books for their patrons' e-readers (Cilip, 2012, p. 2). This is complicated by the lack of standards across major e-book vendors.

Open or standard format is another technology-related criterion. For example, ReadersFirst, an organization composed of nearly 300 public libraries across the world, has developed an e-book evaluation form for libraries. One major category in this form is “e-content format,” which places priority on e-book products that make titles available in open formats (*ReadersFirst Guide*, 2014). Numerous articles from the library trade press point out the importance of selecting an e-book product that includes e-books compatible with patrons’ devices (Backer, 2014; Balas, 2001; Scown, 2013; Taylor, 2008). Given the large share of Kindles in the consumer e-book reader market, several libraries prioritize those e-book products that are Kindle-compatible (Moyer & Thiele, 2011).

In addition to the compatibility of e-book format, another selection criterion closely related to technology is DRM, which is one of the major ways for e-book providers to regulate how libraries and their patrons can use their e-books. Specifically, publishers are concerned about the potential piracy caused by e-books and, thus, often turn to DRM as a solution (Lessig, 2006; Reid et al., 2000). In many other cases, publishers use DRM to limit more mundane user behaviors. For instance, DRM may restrict library patrons’ ability to print more than a certain amount of pages or download e-books to local devices. Moreover, DRM can be used to enforce certain pricing models by limiting use and therefore requiring libraries to pay for more usage that previously was not commodified. HarperCollins’ 26-loan cap is an example of DRM enforcing certain pricing models (Golderman & Connolly, 2003; Hadro, 2008; Hadro, 2010 (a); Hadro, 2010 (b)). Particularly, a HarperCollins e-book would expire automatically from a library’s collection after being checked out 26 times. Therefore, libraries would need to repurchase this e-book title after 26 check-outs if they still want to provide it to their patrons. As for librarians’ attitudes towards DRMs, some librarians believe that “DRM is a constant annoyance” to their

patrons (Kelley & Schwartz, 2012, p. 16), while others question the rationales behind the DRM, claiming it violates the First Sale Doctrine (Losinski, 2012; Powell, 2011).

From a selection perspective, some libraries prioritize those e-book products with no or minimum DRM (Backer, 2014; *ReadersFirst Guide*, 2014; Taylor, 2008). It is also interesting to note that several smaller publishers decided to provide DRM-free e-books to libraries. For instance, Tom Doherty Associate, an imprint of Macmillan, announced that its entire list of e-books would be DRM-free, since “our authors and readers have been asking for this for a long time” (Kelley & Schwartz, 2012, p. 16).

2.1.2 Selection Criteria for e-book products in Academic Libraries

In this section, I review articles that discuss selection criteria for e-book products in academic libraries. The major selection criteria mentioned in those articles include: ownership, acquisition method, price, and licensing and digital rights management, which I discuss below.

2.1.2.1 Ownership

Many articles cite the ownership of e-book content as one of the most important criteria for selecting e-book products in academic libraries. As mentioned earlier in Chapter 1, libraries can provide their patrons with access to e-books either through subscription or purchase, and many librarians in the literature claim that both models have advantages and disadvantages.

Specifically, the major advantage of the subscription model is that it allows libraries to build a collection in an inexpensive way, because subscription often provides access to a large number of e-book titles with a relatively low initial price (Goedeken, 2015; Levine-Clark, 2014; Maceviciute, Borg, Kuzminiene & Konrad, 2014; Simon, 2014). Another benefit of subscription is its ability to provide most recent e-book titles, because it often allows new editions to replace the older ones. This is especially important for subject areas that need constantly updated

collections, like computer and engineering, business, and medicines (Levine-Clark, 2014; Simon, 2014; Tedd & Carin, 2012; Wicht, 2006).

Librarians and researchers also discuss the benefits of the purchase model. The major benefit is that the purchase model gives libraries permanent ownership of the electronic files of the e-books contained in a product and this allows libraries to provide permanent access to those e-books. This is especially important when publishers or vendors pull certain e-book titles from the products. (Georgas, 2015; Levine-Clark, 2014; Maceviciute et al., 2014; Simon, 2014; Soules, 2009). Levine-Clark (2014) further claims that the purchase model should be the “preferred model” for e-book titles that have high project usages in the future or that are particularly important for library collections.

Simon (2014) claims another major benefit of the purchase model is its price. The purchase model requires a large “one-time expense,” which is often higher than a subscription fee for the first a few years, but Simon argues that the purchasing fee could be lower than the accumulated subscription fee in the long term. Also, Veach (2014) claims a preference of the purchase model over the subscription model because it may be easier for libraries to allocate money for purchasing than for subscriptions. Specifically, Veach contends that the money for purchasing e-books often comes from the capital budget, which can be spent on purchasing new e-books every year, even if the capital budget is shrinking, while the subscription fee comes from the expense budget, which can only be spent on subscribing new e-books through canceling other subscriptions or increasing the budget line. Therefore, it is more difficult for academic libraries to spend the expense budget on a subscription than to use the capital budget to purchase new e-books.

Some articles suggest that there is no one model that can fit all libraries and all purchases, and thus librarians should select an appropriate purchase or subscription model that meets their local needs (Levine-Clark, 2014; Simon, 2014). Nevertheless, several articles about academic libraries still show a clear preference for purchasing over subscription. For instance, Georgas (2015) suggests that academic libraries move from the subscription model to the perpetual access model, while a study that interviewed librarians from seven academic libraries in the U.K. reveals that most of the interviewees preferred the purchase model over subscription (Vasileiou, Hartley & Rowley, 2012).

2.1.2.2 Acquisition Methods

Acquisition methods refer to different ways e-book providers offer libraries to acquire their e-books. Here I review articles on the comparison between package selection and title-by-title selection, and articles on two acquisition methods for bounded title selection: patron-driven acquisition (PDA) and evidence-based acquisition (EBA).

(1) E-Book Package Selection vs. Title-by-Title Selection

Many articles comparing e-book packages containing a pre-determined collection of titles with title-by-title selection across different publishers are available. When a library chooses an e-book package, it buys all the titles bundled in that collection. As defined in Chapter 1, I treat e-book package as one type of e-book product. Here, I also distinguish between title-level selection across any e-book provider in the world (what I call “free title selection”) and title-level selection within the collection of titles in an e-book product (which I call “bounded titled selection”, as defined in Chapter 1). Below, I summarize literature discussing the advantages and disadvantages of e-book package selection and “free title selection”.

One major reason for academic librarians to choose an e-book package is that it allows them to build a larger collection in a fast way, assuming the coverage of titles in a package meets most users' needs. Price is another reason for these librarians choosing e-book packages, because the cost per title is often lower than the average cost under free title selection. E-book package level acquisition can also reduce librarians' workload in terms of selection and maintenance (Bucknell, 2012; Carrico, Cataldo, Botero & Shelton, 2015; Veach, 2014). Further, Carrico et al. (2015) compare the cost per title and cost per usage of e-books in packages and e-books purchased in free title selection and contend that e-book package purchase is especially suitable for e-books in science, engineering, math, and medicine, because e-book packages in those disciplines demonstrate a lower cost per title and a lower cost per usage.

Some other academic librarians prefer title-level selection over e-book packages. A survey of academic librarians in the U.S. reveals their preference for title-by-title selection (Collins, 2012). Two studies in the UK also demonstrate academic librarians' preference of title-level selection, because librarians have more control when developing their e-book collection (Armstrong & Lonsdale, 2005; Vasileiou et al., 2012).

It is important to note that all these discussions on title-level selection do not include bounded title selection, which is often tied to certain e-book products. In other word, these discussions are not about choosing an e-book product that allows libraries to select individual titles within the product; rather, the title-level selection covered in these discussions could be across multiple publishers or aggregators' products. In order to reduce the workload for title-level selection and also ensure libraries' control over the content, several articles investigate using approval plan for purchasing individual e-books. Particularly, an approval plan allows libraries to reduce workload and increase control through developing approval profile in terms of

price, content, publishers, or other parameters, and then book vendors supply books to libraries automatically based on those profiles (Buckley & Tritt, 2011; Pickett, Tabacaru, & Harrell, 2014; Veach, 2014).

In addition to the articles that demonstrate clear preference for either e-book package or title-level selection, some articles take more neutral attitudes towards both models (Ferguson, 2000; Jackson, 2007; Levine-Clark, 2014; Sharp & Thompson, 2010; Simon, 2014). For instance, Lamothe (2013) compares usage statistics for e-books purchased individually from two aggregators and for e-books from packages from the same aggregators and a third publisher. Lamothe concludes that title-level selection often provides more advantages; however, he also points out that e-book packages may have fewer DRMs and may, therefore, be easier to use because e-book packages often have less DRM restrictions than individually acquired e-book titles.

(2) Bounded-title selection

In this section, I discuss the findings from current literature examining two main forms of bounded-title selection: patron-driven acquisition (PDA) and evidence-based acquisition (EBA).

a. Patron-driven acquisition (PDA)

Academic libraries, like public libraries, treat patrons' demands as one of the most important selection criteria for e-books. Therefore, beliefs about whether an e-book package can meet patrons' needs directly affect academic libraries' decisions on e-book selection (Blummer & Kenton, 2012; Foster & Ransley, 2011; Minčić-Obradović, 2011). In recent years, many academic libraries have experimented with satisfying their patrons' needs in another way - Patron-Driven Acquisition (PDA) (Polanka & Delquíe, 2011). Unlike the traditional expert-driven acquisition model in which librarians choose which titles to purchase, PDA allows library

patrons to determine whether or not to select an individual e-book title within a pre-loaded e-book pool.

The literature presents PDA as one means of ensuring selection based on patron demand at the time of need, because PDA is an effective way to meet patrons' needs by providing e-books "just-in-time," rather than "just-in-case." Meanwhile, libraries only have to pay for the e-books that are used by their patrons (Belvadi, 2016; Fischer, 2016; Goedeken, 2015; Hodges, Preston & Hamilton, 2010; McElroy & Hinken, 2011; Proctor, 2013; Swords, 2011; Veach, 2014).

Some articles describe challenges and concerns about PDA. The most commonly discussed concern was reduced control over collection development. For example, Hodges (2010) claims that under PDA, model librarians have no or very limited control over what e-book patrons are selecting. Consequently, the e-books selected by patrons might not exactly meet the libraries' mission. Sharp and Thompson (2010) contend that it is hard to predict purchasing patterns in PDA, which makes it difficult for academic libraries to develop their budget plans. Some other challenges of PDA discussed in the current literature include the relatively small coverage of e-book titles in PDA products, the fact that patrons select titles already available in other available e-book products, possible DRM on patron selected titles, and the difficulty of cataloging PDA titles (Bucknell, 2012; Goedeken, 2015; Hodges, 2010; Zhang & Downey, 2017).

When libraries decide to use a PDA model after comparing its advantages and disadvantages, the next step for them is to determine which PDA product they should acquire. However, I only found one article briefly discussing the reason for selecting a particular PDA product: Bucknell (2012) claims that his library chose a certain PDA product because this

product did not use short term loan, which reduces the complexity of this PDA model. As Zhang, Downey, Urbano and Klingler (2015) argue, short-term loan makes PDA more complicated because the cost-effectiveness of short term loan depends on other factors, such as disciplines and subjects, and, thus, short-term loan is not always cost-saving option.

b. Evidence-based acquisition (EBA)

EBA is a relatively new acquisition method for academic libraries to acquire e-books as bound title selection. Similar to PDA, EBA providers offer a large pool of e-books to libraries but with an agreement that libraries will purchase e-books that value certain amount of money by the end of the contract. I only found a few articles discussing the benefits and drawbacks of EBA. The major benefit of EBA is that libraries have more control in terms of selected titles and money spent on EBA. Particularly, since EBA providers offer librarians usage data at the end of the contract, and librarians are able to select e-books based on their actual usage or even combining with other criteria, librarians have more control over the purchased titles when compared with the user-driven method in PDA (Levine-Clark, 2015; Kaelin, Barrett, Gallagher, Heckathorn, McElroy, Price, & Shelton, 2016; and Robbeloth et al., 2017;). Meanwhile, EBA allows librarians to set up a pre-determined amount of money to spend on purchasing e-book titles, thus eliminating the possibility of overspending or using up the budget too soon, as often found in the PDA model (Kaelin et al., 2016; and Schroeder & Boughan, 2018). Another benefit of EBA is that it provides a cost-effective way to provide libraries a wider access to e-book titles, because libraries can provide access to all e-book titles included in that pool without additional payment before the end of the contract (Carrico et al., 2015; and Levine-Clark, 2015). Moreover, as EBA often comes from publishers rather than aggregators, the e-book titles provided through

EBA often have less or even no DRM restrictions, which is another reason for librarians to acquire e-books through EBA (Levine-Clark, 2015; Schroeder & Boughan, 2018).

However, some librarians claim that EBA has drawback. The major disadvantage is the limited coverage of e-book titles caused by the fact that EBA is often provided by publishers rather than aggregators; thus, all the e-book titles included in the pool are often from a single publisher (Levine-Clark, 2015). Another drawback of EBA is that it requires librarians to determine which titles to purchase based on their usage data or some other criteria, which could be labor-intensive (Robbeloth et al, 2017).

2.1.2.3 Price

Price is another highly-used criterion academic librarians use to select e-book products. Some articles generally mention the importance of price criterion in determining e-book products (Armstrong & Lonsdale, 2005; Buckley & Tritt, 2011; Soules, 2009; Tedd & Carin, 2012), while Tovstiadi and Wiersma (2016) point out that when compared with other selection criteria, cost should “not be the most important factor” in their decision-making process. Other more helpful articles provide specifications about the price models they believe academic libraries would accept, including price level, complexity of pricing model, cost per download or view, and platform fee. Specifically, one librarian in Vasileiou et al.’s study (2012) claimed that he or she would only purchase e-book titles that were under £50 for title-level purchase. Ball (2009) contends that an ideal price model should be less complex and easy to follow. Bucknell (2010 & 2012) suggests that libraries calculate the cost per download or per view to determine whether to retain a currently-subscribed e-book product. Simon (2014) further suggests that librarians pay attention to the possible platform fee when considering the price of a product.

2.1.2.4 Licensing and DRM

Many articles about academic libraries' e-book selection call attention to licensing and DRM concerns, which are the two major ways for e-book providers to regulate how libraries and their patrons can use their e-books. Specifically, licenses between libraries and providers specify the rights and obligations for both parties, and it can also override the copyright laws that are important to library services, particularly the Fair Use and the First Sale Doctrine, while DRM imposes certain limitations on e-books which directly restrict library patrons' actions or enforce certain pricing models.

I found numerous academic library e-book selection articles that express concern about licensing/DRM and users' rights including the ability to print, download, and copy (Armstrong & Lonsdale, 2005; Ball, 2009; Berger-Barrera, 2009; Blummer & Cox, 2012; Buckley & Tritt, 2011; Carreño & Maltarich, 2013; Carroll, 2010; Dooley, 2011; Georgas, 2015; Maceviciute et al., 2014; Mikkonen, 2006; Pan, 2009; Silberer & Bass, 2006; Simon, 2014; Tedd & Carin, 2012; Vasileiou et al, 2012). I also found many articles that express concern about licensing/DRM and library management of e-books, including perpetual access, multiple concurrent users, and sharing between multiple sites. I explained perpetual access concerns previously in section 2.1.2.1 when discussing the disadvantages of subscription model. As for the concurrent users, e-book providers can use DRM to limit the number of concurrent users allowed for their e-books, while many librarians prefer unlimited concurrent users, which is especially for those e-books that have high projected usages (Armstrong & Lonsdale, 2005; Anson & Connell, 2009; Buckley, 2011; Collins, 2012; Pan, 2009; Silberer & Bass, 2006; Simon, 2014; Tedd & Carin, 2012; Vasileiou et al, 2012). Moreover, licensing and DRM also regulate libraries' ability to share their e-books with other libraries and, thus, directly affect the interlibrary loan (ILL) of e-books among

libraries. Although Zhu and Shen (2014) find that ILL of e-books is not a common practice among academic libraries, several articles claim that they would consider the ability of ILL as an important selection criterion because ILL is among libraries' traditional philosophy (Ball, 2009; Simon, 2014).

2.1.2.5 Other discussed selection criteria

The current academic library literature also describes other selection criteria that academic libraries use to choose e-book products. Those criteria include:

(1) Format of e-books - some librarians claim their particular preference over open and standard formats, such as XML or pdf (Ball, 2009; Berger-Barrera, 2008; Blummer & Cox, 2012; Soules, 2009; Vasileiou et al., 2012);

(2) Ease of use of the e-book product platform that provides access to e-books (Berger-Barrera, 2009; Blummer & Cox, 2012; Carreño & Maltarich, 2013; Gale, 2016; Georgas, 2015; Pan, 2009; Soules, 2009; Tovstiadi & Wiersma, 2016; and Vasileiou et al., 2012);

(3) Whether the e-book products allow patrons to create personal account and thus obtain personal services, such as saving notes and bookmarks (Berger-Barrera, 2009; Blummer & Cox, 2012; Silberer & Bass, 2006);

(4) Whether the e-book product providers would provide usage statistics to libraries (Ball, 2009; Bucknell, 2012; Mikkonen, 2006; Silberer & Bass, 2006);

(5) Quality of MARC records or other related metadata (Ball, 2009; Bull & Quimby, 2016; Silberer & Bass, 2006; Simon, 2014; Vasileiou et al, 2012; Veach, 2014; and Wiersma & Tovstiadi, 2017).

Furthermore, I found several other selection criteria that were mentioned by one or two articles, including searchability within an e-book product (Berger-Barrera, 2009; Carreño &

Maltarich, 2013), compatibility with learning management systems (Silberer & Bass, 2006; Tedd & Carin, 2012), accessibility of e-books and the e-book product (Silberer & Bass, 2006), and privacy protections related to usage data (Simon, 2014)

2.1.3 Selection Criteria for Academic Library Consortia

According to the definition of library consortium mentioned in Chapter 1, both public libraries and academic libraries have library consortia. In recent years, academic library consortia have started e-book sharing among member libraries. Similar to the sharing practices with other types of library materials, like e-journals or print books, the major reasons for a consortium to provide shared e-books are saving money and expanding the coverage of library collections (Dresselhaus, 2016; Ferguson, 2000; Lippincott et al., 2012; Machovec, 2013; Shelton et al., 2017; Swindler, 2016; Turner, 2014; Vasileiou et al., 2012; and Veach, 2014). Another reason is to reduce the burdens for each member library in training staff in new skills and cataloging (Schell, 2010).

Although it is not uncommon for library consortia to provide e-books to member libraries, I only found a few articles examining the selection practices at the consortial level. Yet selection criteria at consortia level might be different because the selection must meet the needs of a diverse set of member libraries. Among those articles, the most discussed, as well as the most straightforward, selection criterion is whether the product allows for e-book sharing among consortium members (Langston, 2003; Lippincott et al., 2012; Machovec, 2013). Another commonly-used selection criterion is the price model; several articles expressed a preference for a pricing model that could reflect each members' usage and spending (Lippincott et al., 2012; McElroy & Hinken, 2011), while Mikkonen (2006) suggests that consortia should select “the simplest possible pricing models” because it would be much easier to negotiate with e-book

providers (p. 7). Other selection criteria discussed in the literature include: positive prior experience with the provider, and broad coverage of content (Robbeloth et al, 2017; Swindler, 2016; and Woodward & Henderson, 2014).

2.2 Selection Process for e-book Products

Prior to the rapid growth of e-book collection in libraries, library science articles explored selection process for print materials or for other types of electronic resources. As I mentioned earlier in this chapter, I analyze selection models that include different variables and the measurement of each variable and/or chronological orders in selection for print books, e-journal packages, and e-books in Chapter 4. Here, I only focus on the current articles of general e-book selection processes, most of which do not include explicit variables and measures. Moreover, I did not find many general selection process articles. Despite the dearth of such literature, the few examples I found do provide detailed descriptions on procedures for how to select e-book products in both individual libraries and library consortia.

I found three articles that briefly describe selection processes for e-book collections. Vasileiou et al. (2012) provide an e-book management framework for academic libraries that includes three stages for making e-book products purchasing decisions: evaluating the e-book product, conducting trials, and choosing a supplier and evaluating purchasing/licensing options. Blummer and Kenton (2012) describe a general acquisition process for building e-book collections. They include identifying e-book acquisition staff, providing a trial access, and understanding licensing terms. Similarly, the selection process described by Doucette and Lewontin (2012) includes three steps: establishing selectors, choosing e-books, and selecting e-books based on usage statistics. Both the Blummer & Kenton and Doucette & Lewontin processes are more suitable for title-level selection rather than e-book product selection.

Further, two articles investigate the e-book selection process in academic library consortia. Specifically, McElroy and Hinken (2011) describe how the members in an academic library consortium worked collaboratively to complete a consortium-wide e-book selection process. Their process included the following steps: identifying the vendors for pilot testing, developing a collaborative network among members, and identifying specific e-book products. Lippincott et al. (2012) describe two potential acquisition models for academic library consortia. However, their model does not include steps or guidelines for choosing either titles or an e-book product.

2.3 Written Documents for e-book selection

As a systematic and detailed document, a collection development policy defines the rules directing a library's collection development (Johnson, 2014). Constructing a collection development policy is not new to libraries, since they have dealt with policies for printed books for many years (Johnson, 2009). The library science literature contains many articles examining collection development policy for printed resources and later for other electronic resources. The literature also contains many discussions on the importance and virtues of developing a collection development policy (Bostic, 1988; Bryant, 1980; Carpenter, 1984). Library science articles also articulate key elements of a collection development policy (Demas & Miller, 2012; Gregory, 2011).

I found fewer articles addressing collection development policies for e-books. The ARL 2009 survey reports that 82% of respondents indicated that they did not have a collection development policy particular to e-books (Anson & Connell, 2009). Of the six policies they obtained from respondents for the ARL survey, three were for electronic resources in general. The remaining three policies included a section specifying situations in which the library should

select e-books rather than printed books. In addition, only one of the policies provided a list of selection criteria to consider when making decisions on selecting e-books. In another study of six academic libraries in the UK, Vasileiou, Rowley and Hartley (2012) found that five libraries had developed written policies for their e-book collections, but those policies were included in the library main collection policies rather than as a separate policy. Further, Maceviciute et al. (2014) studied the collection development policies in two Swedish academic libraries and found that only one of them mentioned e-books in its general policy, prioritizing e-book acquisitions to meet patrons' needs. In Horava and Levind-Clark's study (2016) on academic libraries' collection development policies, they found that not maintaining collection development policies allowed libraries to be "more nimble in responding to ... new types of resources (such as e-books)."

Despite the limited literature describing the current practices in developing written policies for e-book collections, some articles emphasize the importance for developing such policies for building e-book collections; more importantly, several articles suggest libraries should provide more clear guidelines in the selection criteria and decision processes for e-books (Armstrong & Lonsdale, 2005; Doucette & Lewontin, 2012; Silberer & Bass, 2005; Vasileiou, Rowley & Hartley, 2012).

2.4 Limitations of Current Literature on E-book Selection

A close examination of the current library science literature I found on e-book selection reveals the following problems:

(1) The library science literature lacks in-depth studies of the rationale behind e-book selection criteria. In the literature on selection criteria, most of the articles, especially the empirical studies, provide a list of criteria without any explanation. Specifically, there is no discussion of the rank of importance for these criteria under different circumstances.

Furthermore, it is unclear in these articles how authors identified their criteria. One possible reason to explain this situation is the normative pressure- formal education librarians received in library school and learned from collection development textbook and professional communication within the library profession through conferences or professional readings. I discuss the institutionalization of the selection criteria in 4.6.1.

(2) The library science literature lacks deep analysis of the process by which libraries select e-book products. The current literature on the e-book selection process, particularly those from individual libraries' perspective, focuses on title-level selection, rather than e-book product-level selection. More importantly, most of the articles do not clearly describe the workflow of selection process. Specifically, these articles do not provide a clear description of any sequence of steps, which makes it difficult for readers to examine or even follow those selection processes in practice. Further, none of the current articles articulate how their libraries come to the final selection decision; it is unclear whether their libraries choose certain e-book products because the products meet all the selection criteria or whether they choose an e-book product because the product could reach a certain threshold for libraries to make the purchase decision.

(3) The library science literature lacks studies of e-book collection development policies. As discussed earlier, only a few articles address this topic, and, perhaps more importantly, studies suggest that few libraries have collection development policies for e-book collections. However, the reasons for this situation remain unclear. Is it because libraries are satisfied with their current policies developed for electronic resources or even printed resources? Or, is it the case that libraries would really like to have a selection policy specific to e-books but encounter difficulties with developing such a policy?

(4) The library science literature lacks studies of e-book selection in smaller academic libraries. Most of the articles I found focus on large research libraries. The large libraries often have a higher budget for developing e-book collections, and, thus, they play an important role in shaping the current library e-book market; however, e-book providers cannot ignore the market share from smaller academic libraries that make up a large portion of the academic library population. More studies on e-book selection from the perspective of small libraries will be beneficial to the providers to build a more comprehensive understanding of their library customers.

(5) The library science literature has not connected its ideas and models about resource selection with relevant models from other fields such as consumer behavior studies. A better understanding of selection/purchasing models from related fields could enrich our understanding of e-book selection and help librarians develop better frameworks to guide practice.

2.5 Theoretical Frameworks

In this section, I introduce theoretical concepts I used to analyze the findings of my study: “institutionalization” and “isomorphism” from institutional theory. In the end of this section, I explain how I used them to better understand e-book product selection practices in academic libraries.

2.5.1 Institutional Theory Overview

Institutional theory focuses on the effects of cultural belief systems on the behaviors of institutions. According to the definition from Singh, Tucker and Meinhard (1991), institutional theory helps us to understand “how the institutional environment, comprised of socially created beliefs and cognitions, widely held in society and reinforced by corporate actors, affects organization” (p. 390). Further, institutional theory treats the institution, or formal structure, not

only as a stable property but also as a changeable process. In this study, I used institutional theory to examine whether and how certain selection practices are institutionalized within the library community. From this perspective, selection practices, including selection criteria and decision-making processes, are social structures that may be more or less institutionalized within or between organizations.

2.5.2 Institutionalization

Tolbert and Zucker adopted Berger and Luckmann's (1967) view on institutionalization, which can be defined as "a core process in the creation and perpetuation of enduring social groups" (Tolbert and Zucker, 1996, p. 180). Tolbert and Zucker explored institutionalization from a macro-level perspective and concentrated on the analysis of organizations rather than individuals. They argued that organizational decision-making processes and behaviors should be treated as a "continuum" between two models: rational actor model and institutional model, where the former assumes decision-makers always calculate "the costs and benefits of different actions choices", while the latter assumes decision-makers generally "accept and follow social norms unquestioningly" (p. 176). Therefore, Tolbert and Zucker used the institutionalization to explain "*when* rationality is likely to be more or less bounded" (p. 176).

Figure 2-1 illustrates the basic idea of Tolbert and Zucker's theory on the institutionalization process. More specifically speaking, there are three phrases in the process of institutionalization: habitualization, objectification, and sedimentation. I explain these three phrases in the following section.

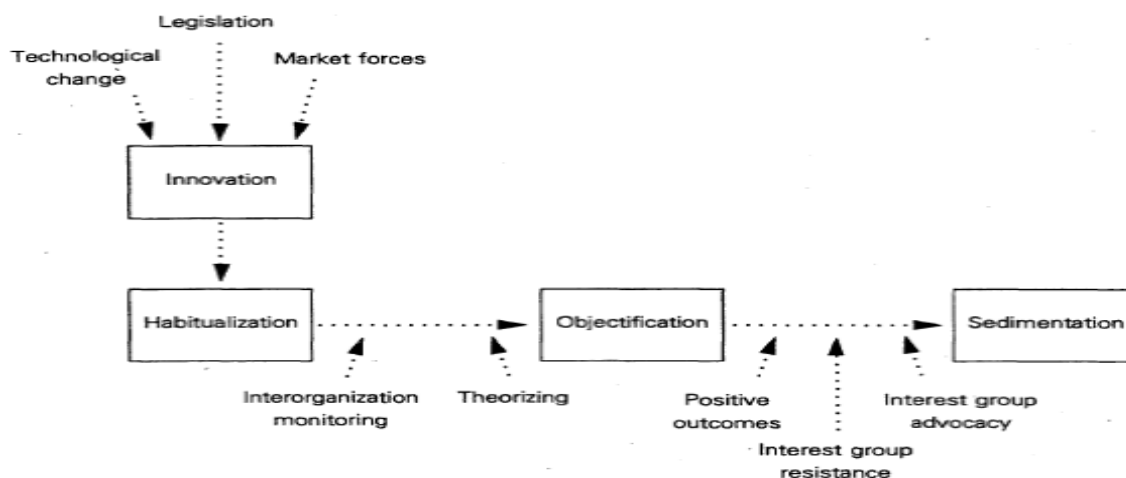


Figure 2-1: Component process of Institutionalization (Tolbert and Zucker, 1996, p. 182)

(1) Habitualization

Tolbert and Zucker define habitualization in the following way:

“[...] the process of habitualization involves the generation of new structural arrangements in response to a specific organizational problem or set of problems, and the formalization of such arrangements in the policies and procedures of a given organization, or a set of organizations that confront the same or similar problems” (p. 181).

In the definition, Tolbert and Zucker argue that the outcome of habitualization is the creation of new structures, which implies that such structures do not exist before habitualization. Also, they claim that habitualization is largely an individual activity among organizations. Although it is possible that the structure created by one specific organization could be imitated or copied by other organizations, such imitation or copying actions are not necessary for habitualization.

Tolbert and Zucker call the process of habitualization a “pre-institutionalization stage” (p. 181). There is no consensus among the organizations on the utilization of innovated structures; therefore, such structures would be applied in only a small number of organizations. In most cases, these organizations are confronted with a similar problem, or they are interconnected in

some way. Even if some organizations decide to apply the structure, the actual implementation of such a structure would vary. More importantly, Tolbert and Zucker argue that there is no “formal theorizing and knowledge of the structures among non-adopters” (p. 182), which suggests that a lack of common knowledge among organizations would limit the diffusion of the structures during the stage of habitualization.

In addition, Tolbert and Zucker discuss the way to reveal the structures during habitualization. They argue that the structures could be found by comparing the organizational charts of multiple organizations. The structures would be “idiosyncratic” to one or a limited subset of organizations (p. 182). However, the structures are more likely to be temporary rather than permanent. Since adoption of the structures is dependent on the decision-makers’ personal preference rather than on formal organizational behavior in most cases, organizations might terminate the adoption of the structures after the expiry of the decision-makers’ tenure.

(2) Objectification

Tolbert and Zucker define the diffusion of structures as objectification. They claim that:

“Objectification involves the development of some degree of social consensus among organizational decision-makers concerning the value of a structure, and the increasing adoption by organizations on the basis of that consensus” (p. 182).

According to the definition, the structure already exists, and consensus among decision-makers is the major characteristic of the process of objectification. Tolbert and Zucker point out two ways for the organization decision-makers to achieve a consensus towards the structures. The first one is based on organizations’ concerns about the cost-effectiveness of a new structure. It is much easier and less risky for an organization to adopt a structure which has been pre-tested by other organizations than create a new structure from scratch. By observing other organizations’ activities, one organization could obtain information about the cost as well as the

effect of the structures. From the perspective of an organization considering adoption, the more adopters of the structure exist, the more cost-effective the structure should be, and, therefore, the more likely it is that the organization will adopt the structure. Furthermore, Tolbert and Zucker introduce the concept of “sequential decision-making.” They claim that the other organizations’ adoption of the structures could reduce the influence of decision-makers’ personal judgment on options. It is hard not to do what everyone else seems to be doing.

The second way to obtain consensus among the organizations is based on the influence of the “champion,” defined as “a set of individuals with a material stake in the promotion of the structure” (p. 183). In other words, the champions have an interest in promoting the diffusion of the structures. However, Tolbert and Zucker also argue that champions must accomplish two major tasks before the diffusion of structures. The first is to define a general organizational problem which causes consistent dissatisfaction, and the second task is to analyze the sources of the problems and then introduce and theorize the potential structure as a solution to the problem. Also, champions should provide solid evidence of the effectiveness of the structures. For instance, they might describe the positive outcome of another organization’s adoption to the structures. After all these tasks have been achieved, champions might be able to promote the diffusion of the structures in their organizations or to new organizations.

The process of objectification is a “semi-institutionalization” according to Tolbert and Zucker (p. 183). During the objectification stage, the diversity of adopters increases, while the impetus for structure diffusion begins to move from imitation to a “more normative base” (p. 183). When there is more theorizing work involved, the variance in the implementation of structures reduces. Moreover, since the structures do not exist for a long time, it is necessary for

organizations to keep testing the value of the structures. Thus, it is not safe to claim the permanence of the structures at the objectification stage.

(3) Sedimentation

Tolbert and Zucker define the sedimentation as followed:

“[A] process that fundamentally rests on the historical continuity of structure, and especially on its survival across generations of organizational members. Sedimentation is characterized both by the virtually complete spread of structures across the group of actors theorized as appropriate adopters, and by the perpetuation of structures over a lengthy period of time” (p. 184).

According to the definition, the two characteristics of sedimentation are the width and depth of the structures. More specifically speaking, the structures during this stage should be spread out across different types of organization for a very long time. Therefore, Tolbert and Zucker call the process of sedimentation “full-institutionalization.”

Tolbert and Zucker also discuss two major factors that affect the sedimentation process. The first one is the opposition received by the structures. Since there are always a set of individuals who resist the diffusion of the structures, the distribution of the structure would be limited by these individuals. Therefore, low resistance and continued support and promotion are necessary to the process of sedimentation. The second factor is persuasiveness of the positive outcome of the structures. The positive correlation between the structures and the intended outcome should be demonstrated to strengthen the maintenance of the widely-used structure. Otherwise, the sedimentation would be reduced, and the institutionalization would be diminished in the end.

2.5.3 Institution Isomorphism

DiMaggio and Powell (1983) develop their theory about isomorphism by criticizing Max Weber’s concept of Iron Cage. Weber claims the major cause of bureaucratization is the

competitive marketplace and that rationalization has become the iron cage to control people in society into pursuing more efficiency. However, DiMaggio and Powell argue that the organizational changes nowadays are “less and less driven by competition or by the need for efficiency;” rather, they claim that those organizational changes are “the result of processes that make organizations more similar” (p. 147). Based on Hawley (1968), and Hannan and Freeman’s (1977) definition of isomorphism as a process of homogenization, DiMaggio and Powell argue that there should be two types of isomorphism: competitive and institutional, where the former is articulated in Hannan and Freeman’s article to explain Weber’s bureaucratization process, and the latter is introduced to address the impact of political power, institutional legitimacy, and economic fitness on organizational behaviors. DiMaggio and Powell’s article concentrates on the institutional isomorphic change and identifies three mechanisms for the change: coercive isomorphism, mimetic isomorphism, and normative isomorphism.

(1) Coercive Isomorphism

DiMaggio and Powell argue that coercive isomorphism works as “force,” “persuasion,” or “invitations” to push organizations to follow specific structures (p. 150). They also discuss two sources for coercive isomorphism: pressures from other interconnected organizations and pressures from cultural expectations. The most common example of coercive isomorphism is the legal system, where structures in the form of law or regulation are imposed on organizations directly and explicitly. DiMaggio and Powell also discuss other kinds of coercive isomorphism examined in other scholars’ articles; for instance, the structures imposed by monopolistic firms or supporting organizations can also bring in coercive isomorphism to subsidiary organizations to homogenize these structures.

(2) Mimetic Isomorphism

Mimetic isomorphism derives from organizations' imitation of other organizations. When confronted with uncertainty, organizations tend to imitate other organizations. Similar to Berger and Luckmann's (1967) view on the outcome of the institutionalization process, DiMaggio and Powell believe that mimetic isomorphism can reduce the economic cost of an organization's action when the problems or solution are ambiguous or unclear. They introduce the concept of "modeling" as a "response to uncertainty" (p. 151). They point out that it is possible that the modeled organizations are unaware of the copying actions, while the imitation could occur through both unintentional and intentional ways. Mimetic isomorphism might happen in Tolbert and Zucker's habitualization stage, as well as in the objectification stage.

(3) Normative Isomorphism.

Normative isomorphism comes from professionalization, which can be defined as "the collective struggle of members of an occupation to define the conditions and methods of their work, to control the production of producers, and to establish a cognitive base and legitimation for their occupational autonomy" (p. 152). DiMaggio and Powell describe two sources for normative isomorphism: formal training from universities and professional networks. In Tolbert and Zucker's theory, normative isomorphism becomes the major force of structures' diffusion during the sedimentation stage.

Besides the three types of institutional isomorphism, DiMaggio and Powell also try to list some general predictors of institutional isomorphism from both organizational-level and field-level, such as an organization's dependence on another organization; the centralization of an organization's resource supply, the uncertain relationship between means and ends, and the dependence of an organizational field on a single source of support for vital resources.

2.5.4 Implications for This Study

Using institutional theory helps me investigate not only the degree of stability of librarians' selection practices, but also the process by which certain selection practices become valued by academic libraries for e-book product selection. Specifically, the stages of institutionalization provide a framework for me to examine the degree of adoption for certain selection practices across different types of libraries in terms of their size and subject areas. This study also explores the stableness of selection practices for e-book products over a period of time by comparing them with the selection practices for print books and e-journal packages. Therefore, by investigating the width and depth of the adoption for certain selection practices, including selection models, selection criteria, and decision-making processes, this study reveals whether academic librarians have reached a consensus about how to select e-book products.

Further, the institutional theory, particularly the concept of "isomorphism," allows me also to explore the process of institutionalization: how certain selection practices have become standards or formal structures for academic libraries and how these formal structures have been transmitted from one library to others or from print-book and e-journal selection practices to current e-book product selection.

Both "institutionalization" and "isomorphism" also provide frameworks for me to investigate the conditions under which librarians adopt different strategies to make decisions: whether they tend to be more "rational actors" who calculate the cost and benefits of possible choices before making decisions or whether they tend to be more "institutional" decision-makers who just follow others' practices to make decisions. In other words, institutional theory helps me to examine the level of "bounded rationality" in librarians' decision-making processes.

Chapter 3: Methodologies

3.1 Chapter Overview

This study focuses on understanding librarians' decision-making process when selecting e-book products. I used qualitative research methods to obtain richly descriptive information about librarians' selection process in natural settings. Although qualitative research is frequently used in social sciences research, it remains a highly contested term. By studying various definitions of "qualitative research," Merriam (2009) concludes that qualitative research is used by researchers to "understand [] the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world" (p. 13). Merriam (2009) further explains four unique characteristics of qualitative research: its focus on meaning and understanding, the researcher working as the primary instrument for data collection and analysis, its use of inductive process, and its generation of rich discussion.

Moreover, qualitative research is not a single method; rather, it covers multiple methods to achieve its interpretive and naturalistic goals, including but not limited to interview, focus groups, observations, case study, and visual analysis. I used structured analysis of current selection models and interviews of librarians to answer my research questions. In the following two sections, I describe the rationales, as well as the data collection and analysis process for both model analysis and interview.

3.2 Structured analysis of selection models

3.2.1 Structured Analysis: Overview

This section discusses the first major methodology of this study – structured analysis of selection models used in library settings, as well as models used by individual consumers to select bundled digital products. Below, I discuss how these model analyses helped my understanding of the e-book selection practices.

Prior to the e-book era, library researchers and professionals had long studied the selection of other types of materials, including but not limited to print books and e-journal packages (Agee, 2003; Johnson, 2014; and Nisonger, 1999). Examining those existing selection models allowed me to capture the similarities and differences in library's selection practices, thus helping me better understand the selection process of e-book products. Besides, the analysis of selection models also helped me develop a list of appropriate interview questions on librarians' e-book selection practices.

I include a separate section to analyze the selection models for print books and models for e-journal packages in academic libraries due to their resemblances to e-book products. Specifically, e-book products are similar to print books because the basic unit of an e-book product is individual e-book titles, which have many shared characteristics with print books. Thus, investigation of print selection models encourages me to study the role of title selection in the selection of e-book product and then to explore the possibility of combining multiple individual title selections into a part of product-level selection.

E-book products are also similar to e-journal packages because first, both types of materials are electronic resources, and their digital nature leads to several shared selection criteria for both e-journals and e-books. Second, both types of materials contain multiple

individual titles, and libraries' selection decisions for both types of digital resources are largely based on evaluation of the whole products rather than individual titles. Therefore, the examination of selection models for e-journals prepared me for a better understanding of the e-book product selection processes by focusing on their characteristics at product-level.

I also searched the literature for work describing e-book selection models; however, I did not find such studies in the literature. Therefore, I only analyzed the selection models for print books and e-journal packages.

Additionally, marketing scholars have developed models to explain how individual consumers make decisions about bundled products. These models share some similarities with libraries' e-book product selection: an e-book product is a type of bundled product, and libraries act as consumers, although they are institutional rather than individual consumers. Therefore, I also analyzed two models from marketing literature that individual consumers use to select bundled digital products, which provided a different way for me to understand the selection-decision process from outside of the library setting.

In the following sections, I describe the methodology I used to systematically analyze selection models from library and marketing literatures. First, I describe my search strategies and inclusion rules to identify the selection models. I then provide an overview of the eight models included in this study, followed by a description of the frameworks I used to analyze these models.

3.2.2 Structured Analysis: Research Design and Data Collection

(1) Search strategies for identifying selection models from library literature

When I searched for the selection models for print books and e-journal packages, I only looked at literature written in English. Therefore, I primarily relied on the following databases, including full-text databases and abstracts databases, to search for journal articles and doctoral dissertations on selection models: Library & Information Science Source, Library Literature & Information Science Retrospective, LISA: Library and Information Science Abstracts, Library Information Science & Technology Abstracts (LISTA), and ProQuest Dissertations & Theses Global. When searching in these databases, I used the following searching strategies to locate the relevant articles²:

Table 3.1: Search Strategies to locate selection models

Database	Time-span	Search strategy		Number of search results	
		Print books	e-journals	Print books	e-journals
Library & Information Science Source	1984-present	((DE "Book selection")) AND (DE "Academic libraries")) AND (model* or process* or procedure* or workflow*)	((DE "Electronic journals") AND (DE "Academic libraries")) AND AB (model* OR process* OR procedure* OR workflow*) AND AB select*	33	13
Library Literature & Information Science Retrospective	1905-1983	(DE "Book selection") AND ((model* or process* or procedure* or workflow*)	"electronic journal" or "e-journal"	12	3

² The cutoff date for inclusion in this table is March 10, 2016.

LISA	1969-present	SU.EXACT("Book selection") AND SU.EXACT("Academic libraries") AND (model* or procedure* or process* or workflow*)	SU.EXACT("Electronic periodicals") AND SU.EXACT("Academic libraries") AND (model* OR procedure* OR process* OR workflow*) AND (select*)	4	7
LISTA	1961-present	(DE "BOOK selection") AND (DE "ACADEMIC libraries")	((DE "ELECTRONIC journals") AND (DE "ACADEMIC libraries")) AND select*	21	27
ProQuest Dissertation & Theses Global	1997-present	ab(academic librar*) AND ab(book) AND ab(select*) AND ab(model* OR process* OR procedure* OR workflow*)	ab(academic librar*) AND ab(e-journal* OR "electronic journal*" OR "online journal*" OR periodical* OR serial*) AND ab(select*) AND ab(model* OR process* OR procedure* OR workflow*)	19	7

These search terms, especially the inclusion of the term “academic librar*” excluded some potential models, such as those written exclusively for the public library environment. The search terms related to book and e-journal (see above) limited results to models for print book or e-journal collections.

I then determined whether to exclude certain selection models in this study based on the rules listed here: first, I excluded works that merely listed selection criteria without discussing

measurements of the criteria. For example, I would exclude a study that merely listed the criteria of “quality of content” if it did not also discuss how to measure the quality. Second, I excluded discussions on general selection principles. Third, I excluded models that focused on determining the number of copies of titles that a library should hold.

Based on the search results and these exclusion rules, I identified four models for print books and two models for e-journal packages.

(2) Search strategies for identifying selection models from marketing literature

When I searched for the models from marketing literature, I primarily relied on one database - EBSCO Business Source Complete, because it provides access to the major journals in marketing and consumer studies, like *Journal of Marketing Research*, *Journal of Marketing*, and *Journal of Consumer Research*. Then I used the search terms “AB bundle AND AB (consumer or customer or buyer) AND AB (evaluat* or select* or purchas*)” to identify relevant articles; however, most of the returned articles focused on producers’ designs of product bundles, or consumers’ comparison between product bundles and individual items. Finally, I identified two models used to describe consumers’ evaluation of product bundles.

3.2.3 Structured Analysis: Overview of the models

Based on the search terms and exclusion rules outlined above, I identified eight total selection models for analysis: four models for selecting library print books, two models for selecting library e-journal packages, and two models for individual customers to evaluate bundled products.

Below please find a brief description of these selection models in chronological order by date of publication.

(1) Models for selecting library print books

- a. DePew (1975): A decision model including a flowchart, an equation and weighted inputs to determine whether a library should add a certain book to its collection or not.
 - b. Atkinson (1984): A model to describe librarians' book selection processes based on the interactions between selectors and bibliographic citations.
 - c. Rutledge and Swindler (1987): A list of six selection criteria with methods to assign different priorities to those criteria.
 - d. Losee (1987): A theoretic decision model for ranking books for selection based on given selection criteria.
- (2) Models for selecting library e-journal packages
- a. Hahn & Faulkner (2002): A model to evaluate e-journal packages through benchmarks developed on current journal collections
 - b. Cater, T., Cater, A., & Broomes (2006): A list of selection criteria with different priorities for evaluating e-journal packages for medical libraries
- (3) Models for individual consumers to select bundled products
- a. Yadav (1994): A conceptual model to depict consumers' evaluation processes, mainly the processes of anchoring and adjustment, of bundled products
 - b. Mikkonen, Niskane, Pynnönen & Hallikas (2015): A list of criteria affecting consumers' purchase and retention decisions for bundled products

3.2.4 Structured Analysis: Data Analysis

One way to understand these models is by comparing the differences between more process-oriented models and variance-oriented models. In order to do this, I used Mohr's (1982) examination of the differences between two types of theory: process theory and variance theory.

I introduce Mohr's theories in Chapter 4. Based on his argument, I divided models included in this study into two categories: the process model (P) and the variance model (V). In my study, I also found models containing both process and criteria (P+V). I further examine the relationships between process models and variance models in Section 4.5.1.

Further, in order to compare these different selection models systematically, I developed a list of comparison criteria to help me concentrate on their most important aspects.

- (1) Primary goals: what specific questions or challenges are this model designed to solve?
- (2) Fundamental principles: what are the major assumptions used to design this model?
- (3) Variables: if it's a variance model, what are the selection criteria?
- (4) Process: if it's a process model, what are the different steps in selection?
- (5) Cutting point: what are the cutting points in this model for selecting a book?
- (6) Uniqueness: how is it different from other models?
- (7) Usability: How easy is it to implement this model to library selection practice?
- (8) Transferability for e-books: Which parts of this model can be applied to e-book selection?

I used these eight questions to compare all models. I provide the detailed findings of model analysis in Chapter 4.

3.3 Interview

3.3.1 Interview Overview

Interview, as defined by DeMarrais (2004), is "a process in which a researcher and participant engage in a conversation focused on questions related to a research study" (p. 55).

Dexter (1970) suggests researchers interview when "it will get better data or more data or data at

less cost than other tactics” (p. 11); while Merriam (2009) adds one more condition – if the interview is the “only way to get data” (p. 88).

I used interviews in this study because they helped me obtain data that I could not collect through direct observation. I examined librarians’ decision-making processes when selecting e-book products, and these processes typically involved many steps occurring in a long time period, including but not limited to contact/negotiation with e-book providers, setting up trials for targeted users, meetings with technical staff, and discussion with other librarians during a professional conference. All those steps could happen at different locations during different times, which made it impossible for me to observe the whole e-book selection process. Further, some parts of the decision-making process, especially in those libraries that do not have formal documentations to support their reasoning for e-book selection, are more likely mental processes of selection librarians, and there was no way for me to observe this process. Interviews allow researchers to figure out what is “in and out someone’s mind” (Patton, 2002, p. 341) and were particularly useful in this study for obtaining selection librarians’ perspectives and reflections on their decision-making processes for choosing e-book products.

In the following sections, I describe my methodology for interviewing librarians responsible for selecting e-book products. I begin by describing my sampling methodologies and rules. I continue by describing my interview protocol. I conclude by describing my data analysis approach.

3.3.2 Interview Research Design

3.3.2.1 Interview: Categories of participating libraries

In this section, I discuss the characteristics of libraries I included in this study, including the subject areas, library size, and types of libraries (individual library or library consortium), which I used as the sampling frame to identify and recruit interviewees.

Selection practices in different disciplines vary; therefore, I designed the study to compare librarians' selection practices from different academic disciplines. Due to the limited resources for this study, I focused on two subject areas. Before I determined which two disciplines I should study, I had informal interviews with e-book selection librarians from three subject areas: humanities, medicine, and engineering/computer sciences. Based on the conversations with these librarians, as well as on the current literature on discipline-specific selection practices, I decided to focus on medicine and the humanities. I use the Classification of Instructional Programs (CIP) (NCES, 2002) from the Office of Educational Research and Improvement at the U.S. Department of Education to define the subject scopes of humanities and medicine in this study³.

These two broad areas contrast in multiple interesting ways: first, the composition of e-book products varies. In medicine, many e-book products also contain other types of electronic resources, mainly e-journals. Often e-books are only a small portion of larger electronic products. In contrast, in the humanities, e-books typically stand on their own, without containing other materials. In comparing these areas, I hoped to examine how inclusion of multimedia

³ According to CIP, humanities/humanistic studies (24.0103) focus on “languages, literatures, art, music, philosophy and religion” (p. 107); while medicine (51.1201) includes “the basic medical sciences, clinical medicine, examination and diagnosis, patient communications, medical ethics and law, professional standards, and rotations in specialties such as internal medicine, surgery, pediatrics, obstetrics and gynecology, orthopedics, neurology, ophthalmology, radiology, clinical pathology, anesthesiology, family medicine, and psychiatry” (p. 194) .

content in medical e-book products made selection different. I address this in Section 6.2.4. Second, the major e-book providers in the two areas differ: the major providers of medical e-books are often large commercial publishers or aggregators, while humanities e-books providers are usually non-commercial publishers or aggregators, such as university presses or scholarly societies. Further, the two markets are at different levels of maturity; medical libraries were early adopters of e-books while humanities libraries began using e-books more recently. I discuss how differences in market maturity impact selection processes in Section 5.2.3 and Section 5.5.

I also compared libraries of different sizes. It is easy to understand that small libraries, compared to larger libraries with relatively greater funding, often have less options when making purchasing decisions because they cannot afford expensive e-book products. Therefore, I included both small and large libraries, so I could investigate the similarities and differences in their selection practices. However, I did not find any significant differences between the selection criteria used by large libraries and small libraries.

Many libraries acquire e-books through consortia purchases, so I wanted to investigate the selection decisions made at the consortial level and compare them with the selection practices in individual libraries. I reveal a certain selection process that was only used by consortial participants in Section 5.3.2.4.

3.3.2.2 Interview: Inclusion rules

In this section, I describe the rules I used to determine whether or not a certain library or library consortium should be included in the study as a participating site, followed by the inclusion rules I used to select librarians at these libraries to participate in the study.

(1) Inclusion rules for individual libraries

First and foremost, all participating libraries had to be academic libraries in the U.S., which means they are affiliated with accredited higher education institutions in the U.S.. I used the *Carnegie Classification of Institutions of Higher Education* to determine whether a library was affiliated with an accredited higher educational institution. This inclusion rule was particularly important for determining medical libraries. I did not include those that only serve hospitals or medical associations. To do so, I only considered medical libraries associated with one of the Association of American Medical Colleges (AAMC) members in the U.S. The AAMC provides a list of 145 accredited U.S. medical schools, and all of them are also included in the Carnegie Classification.

Second, I decided that each participating library must be affiliated with a different degree-granting institution. Therefore, if a large research university has multiple branch libraries serving for different disciplines, and I included more than one of them, then I counted them as one participating site rather than two participating sites, even though they might have different names and different physical locations.

Third, to be included, participating libraries had to be providing e-books in either humanities or medicine. In order to determine whether a certain product included e-books in either humanities or medicine, I read descriptions of the product from the library or provider's websites. If the descriptions provided evidence that the product contained e-books in either

humanities or medicine, then I treated the library that provides this product as a potential participating library. This rule is particularly used to include multidisciplinary humanities e-book products. Also, some studies, as along as my informal conversation with a medical librarian, suggested that many of the products that provide medical e-books also contain other types of electronic resources in medicine like e-journals, patients' handouts or videos (Eito-Brun, 2010; and Shereff, 2010). For instance, ClinicalKey from Elsevier, which is provided by many medical libraries across this country, contains not only e-books in medicine but also many other formats of electronic resources.

(2) Inclusion rules for library consortia

The U.S. Code of Federal Regulations (CFR) (2016, Section 54.500) defines a consortium as “any local, statewide, regional, or interstate cooperative association of libraries that provides for the systematic and effective coordination of the resources of schools, public, academic, and special libraries and information centers, for improving services to the clientele of such libraries.” In addition to this definition, I used three rules to determine whether or not to include a consortium in this study. First, I narrowed my selection using two clarifications from Delanoy and Cuadra's (1972): the consortia members must participate in activities beyond interlibrary loan (ILL), and “[i]f the library consortium is part of a higher level, multipurpose higher education consortium, it must be separate entity with the goal of improving library services.” (Delanoy & Cuadra, 1972, p. 4)

Second, since this study focuses on e-book selection practices in academic libraries, I decided that at least more than half of the consortium members should be academic libraries. To pick consortia for inclusion, I first used the list of library consortia from the International Coalition of Library Consortia (ICOLC) to determine whether a consortium counts as a library

consortium or not. Then I checked the consortium's "types of member libraries" provided by ICOLC to make sure this consortium contained "academic" members. If a consortium included academic libraries as well as other types of libraries, then I checked its member directory to make sure at least half of its members are academic libraries.

Third, all my participating consortia had to have at least one collective licensing of e-books to their members, which guaranteed participating consortia's experience with e-books selection/purchasing.

(3) Inclusion rules for librarians

After making decisions on which libraries or consortia were eligible for this study, I developed the following rules for determining the potential interviewees in each site: First, the participants must have had experience in e-book selection in at least one of the targeted areas in the last three years to guarantee that the participants' selection experience was not dated. Also, the "experience" criterion required that participants either make selection decisions individually or in teams. Second, I sought participants that had experience with many aspects of e-book selection rather than just one aspect. This "key person" role could be identified by the participants themselves or by the library director.

3.3.2.3 Interview: Decisions on participating libraries' size

As mentioned earlier, I wanted to compare the selection processes of large and small libraries, and I used the size of institution, i.e. the full-time equivalent (FTE) enrollment of each institution to determine its size. Specifically, as the size of a library might contain multiple meanings, including but not limited to the number of collections (in both print and electronic formats), the amount of funding, the number of full-time employees, and the number of served

populations, my decision to use FTE was largely due to the accessibility of data. The statistics about FTE enrollment for each school are easily accessible through the Carnegie Classification of Institutions of Higher Education; further, the data was updated recently in February 2016. Additionally, many e-book providers primarily rely on the FTE enrollment of the institution to calculate the prices for libraries of different sizes. Using the same criteria to determine the size of libraries would make the findings easier to follow for the readers from e-book provider side.

Further, I used the Carnegie Classification of FTE size with a minor adjustment to develop my classification of library size. The Carnegie Classification develops five categories for four-year institutions: very small, small, medium, large, and very large. In this study, due to the limited number of participating libraries, I only used two categories to distinguish their size: “small” and “large.” I combined the Carnegie Classification “very small,” “small,” and “medium” into my “small” category, while merging the Carnegie Classification “large” and “very large” into my “large” category. If the FTE enrollment was fewer than 10,000 students, then I included the affiliated library with the “small” group; otherwise, the library fell into the “large” group.

One complication is that the Carnegie Classification database reporting for graduate-only medical institutions is different and not easily comparable to the other academic institutions. To classify the size of the library at these medical institutions, I drew on student FTE data. I averaged the student FTE data at all 32 graduate medical institutions (mean=1506). I used the FTE 1500 students average to divide medical schools’ libraries into “small” and “large.” Those libraries with more than 1501 FTE students were large, and those under 1500 or fewer were small.

3.3.3 Interview: Data collection

3.3.3.1 Sampling strategies

I used snowball sampling and purposive sampling to identify the participants in this study. Specifically, I started with the librarians that I knew from pilot research and conferences, while making sure that their libraries meet all the inclusion rules for participating sites, and these librarians were eligible participants. At the end of each interview, I asked the participant to provide the names of potential interviewees from either the same library or other libraries. If I had more than one candidate for my next interview, I chose the one that had more different characteristics from the past interviewees (i.e., library size, subject area, and interviewee's experience with e-book selection). If several candidates had the same characteristics, then I randomly selected one as my next interviewee. In some other cases, when the snowball sampling did not work for me to identify participants in medicine, or in other words, when I did not have any recommended candidate for my next interview, I randomly picked one relevant institution from the AAMC member directory by using a random number generator to pick a number between 1 to 145.

For all my participating libraries, I went through the following data collection processes: I first contacted the IRBs at each institution (as required by the IRB at my home institution), before contacting any person in the libraries. After obtaining permissions from those IRBs, I contacted either the selection librarians that were recommended by my previous interviewees or the library director who could help me identify the selection librarian in that library.

3.3.3.2 Interview: Descriptions of sites/ librarians

(1) Sample size

Qualitative researchers often use data saturation as the major criterion to determine the sample size of their studies. Merriam (2009) explains the data saturation as the moment when researchers “begin to see or hear the same things over and over again, and no new information surfaces as [researchers] collect more data” (P. 219). To achieve Merriam’s definition of data saturation, I recruited 20 librarians from 19 different libraries from October 2016 to March 2017. Table 3.2 demonstrates the sample size and category of these 19 libraries.

Table 3.2: Sample size and category of participating sites

	Subject area		
	Size	Humanities	Medicine
Individual libraries	Large	4	3
	Small	4	4
Consortia		4	

For all but one participating library, I recruited one selection librarian from each site to interview. At one site I recruited two librarians; however, they were from different branch libraries under the same institution: one was in the medicine area, and the other was in the humanities area. I put this library under “large/humanities” in Table 3.2 and did not count it again in the “large/medicine” category.

For all the participating consortia, I also recruited one librarian from each site. Further, I did not divide these consortia in terms of subject area or size; instead, I investigated their e-book product selection practices regardless of the subject concentration of their e-book products.

(2) Descriptions of sites/librarians

Table 3.2 provides information about the sizes and subject areas of the participating libraries and consortia. In my sampling strategies outlined earlier, I did not include the research

level and funding type of the home institutions of participating libraries; however, the information would help readers better understand the libraries included here. Based on the Carnegie Classification, of the 15 libraries, nine (60%) were from “private not-for-profit” institutions. The other six were from public institutions. Seven libraries (46.7%) were from R1 universities (classified as “Doctoral Universities: Highest Research Activity”), two (13.3%) from universities classified as “Doctoral Universities: Higher Research Activity,” one (6.7%) from university classified as “Doctoral Universities: Moderate Research Activity,” three (20%) from institutions classified as “Master's Colleges & Universities.” one from institutions classified as “Baccalaureate Colleges: Arts & Sciences Focus,” and one (6.7%) from institutions classified as “Special Focus Four-Year: Medical Schools & Centers.

Among the four library consortia, three were composed exclusively of academic libraries, while the fourth included two academic library members and one public library member (a large public library with several research centers). In addition to the four consortia, two of my interviewees from individual libraries also talked about e-book selection practices as part of their libraries’ consortial activities; thus, I also included these two consortia in my study. They were both consortia composed solely of academic libraries. As for the location of consortial members, two of the consortia consisted of member libraries across different states, while the rest of the consortia consisted of member libraries within the same state. As for the number of member libraries, the consortia analyzed in this study include members ranging from three to over 30 libraries.

Among the 20 interviewees, 15 (75%) were female, while the rest (25%) were male. As for their work experience, the majority of my participants (90%) had more than 10 years working

in the field of collection development, while the other two (10%) had less than five years working in libraries.

3.3.3.3 Design of interview protocol

I conducted semi-structured interviews with all my participants. In order to ensure the validity of the interview protocol, I first tested a draft interview protocol with two participants: a selection librarian in an academic library and a library school faculty member who is interested in e-book selection. Conversations with both participants are not included in the findings of this research.

3.3.3.4 Interview process

Each of the librarians participated in a formal one-on-one interview that lasted, on average, about one hour.⁴ The interviews were either face-to-face or by phone, depending on participant preference. For face-to-face interviews, I conducted my interviews in places specified by the interviewees. I provided a \$10 Amazon gift card to each interviewee.⁵ After getting permission from the participants, I made audio recordings of all interviews for later transcription except one. For the interview where the participant did not want to be audio recorded, I took extensive notes during the interview.

My pilot study revealed that librarians had a difficult time describing their selection process. Specifically, when I asked my three pilot participants to draw or write the procedures for selecting e-book products, none of them could do so, even though I had explained in my invitation emails that I would ask them to write down the procedure. Further, I asked my participants to describe the selection processes orally at several points, but only two librarians were able to describe the processes, while the rest talked about their selection criteria. One

⁴ The interviews lasted from 45 minutes to 2 hours.

⁵ Two interviewees declined the gift card due to their institutions' policies.

explanation could be the absence of formal written documents describing selection processes in the participants' libraries. Another explanation could be that selection process did not occur regularly enough for the participants to remember regular patterns. Finally, another potential reason could be the complexity of selection process challenges that I asked the interviewees to recall and then describe (Zhang, 2013).

In order to help my participants articulate their selection processes for this project, I used three new techniques during the interviews: visual elicitation, unaided and aided recall. Visual elicitation is often used when verbal questioning elicits inadequate data (Johnson & Weller, 2001). At the start of each interview, I asked participants to draw a picture depicting their selection process. I also informed the participants about the drawing task before they agreed to participate in the interview, so they were better prepared for drawing a picture. Further, I informed the participants that they would take the first ten minutes at the beginning of the interview, and I would not start the interview until they finished drawing. I believe this separate time for drawing forced the participants to reflect on their selection process more deeply and improved the quality of the data I elicited.

Second, I used both unaided and aided recall techniques in my interviews to help participants describe their e-book selection processes. Unaided recall refers to “a question-asking strategy that relies on as few cues as possible, or even none whatsoever, in order to encourage the respondent to spontaneously mention items of interest” (Lavrakas, 2008, “Unaided Recall”), while aided recall refers to “a question-asking strategy in which survey respondents are provided with a number of cues to facilitate their memory of particular responses that are of relevance to the purpose of the study” (Lavrakas, 2008, “Aided Recall”). Researchers often use unaided recall to help respondents respond to the question “naturally” by allowing respondents to “self-

nominate events to be recalled,” while researchers often use aided recall to prevent respondents from forgetting or omitting some relevant answers, especially when the researchers are “more worried about underreporting answers than in overreporting” (Lavrakas, 2008, “Aided Recall”). In this study, I used the unaided recall technique especially when the interviewee’s depiction of the selection process was too vague, even with the assistance of the visual elicitation. In these circumstances, I asked the interviewee to look at the list of e-book products of his/her library, which is often available on the library website, and then I asked the interviewee to choose one specific product and then to describe the decision-making process related to that product. By having the interviewees refer to a specific e-book product, I provided them with a starting point to recall and then describe the decision-making process.

I also used aided recall technique. Unaided recall is subject to the errors of omission, where useful information is omitted because respondents forget or treat it as irrelevant. In my study, I used aided recall technique when interviewees did not promptly describe the selection process of certain major e-book products that were provided in the library. For instance, when my interviewee from medicine did not talk about the decision-making process of ClinicalKey, which is one of the prevalent and most expensive product in the medical field, then I directly asked the interviewee to recall and describe the decision-making process of that particular product.

3.3.4 Interview: Data analysis

I created verbatim transcriptions of all the interview recordings. I organized these transcripts using Microsoft Word and then exported the resulting documents into Nvivo 11 for further analysis. Based on the research questions, I used institutional theory as well as Mohr’s discussion of variance theory and process theory as theoretical lenses in the open coding and

axial coding. Meanwhile, other concepts emerged inductively from the coding. From the transcripts, I developed 169 nodes that I then put into the following nine main categories, as described in Table 3.3.

Table 3.3 Nine main categories developed in the coding

No.	Category Name	Brief Description
1	Criteria	Description of criteria used by interviewees to make either purchase or retention decisions for e-book products, as well as descriptions of priorities or chronological order of these criteria;
2	Decision-making process	Descriptions about different steps interviewees used to make purchase decisions about e-book products
3	Perceived environment	Description of the environment where interviewees made e-book purchase decisions
4	Written documents	Description of the roles and content of any written documents related to interviewees' e-book selection
5	Consortia	Discussion of the unique aspects of e-book selection in a consortial setting
6	Humanities	Discussion of the unique aspects of e-book selection in humanities areas
7	Medicine	Discussion of the unique aspects of e-book selection in medical areas
8	E-book products	A list of e-book products mentioned by interviewees, as well as descriptions of and comments on these products
9	Interviewees	Descriptions of the interviewees' current job title, job responsibilities, and previous working experiences.

Moreover, for all text that fell in the “decision-making process” category, I used Nutt’s five-stage decision-making process model as the framework for further analysis of the variations among my interviewees’ descriptions of their decision-making processes when acquiring e-book products. In Section 5.3, I provide a more detailed description of this five-stage model and detail how I used this model to analyze the decision-making processes described by my interviewees.

Chapter 4 Analysis of Selection Models

4.1 Chapter Overview

In this chapter, I systematically analyze four models from the library literature for selecting library print books and two models for selecting library e-journal packages, as well as two models from the marketing literature for individual customers to evaluate bundled digital products. I also consider the transferability of these models to library e-book product selection practices. I use Mohr's distinction between variance theory and process theory to frame my analysis of those selection models. Based on the models above, I then propose a conceptual model to describe library e-book selection decision. At the end of this chapter, I distinguish two types of selection strategies: "simply strategy" and "model strategy"; I then consider their institutionalization status within the library profession and factors that cause the occurrence and diffusion of those two selection strategies.

4.2 Framework for analysis of selection models

In Chapter 3, I described several rules I used to determine whether or not to exclude a selection model to explore its transferability to e-book product selection. The first and most important criterion is that the model must be either (a) a description of the selection process, or (b) a list of selection criteria with some degree of measurement, or (c) a discussion of how to apply these criteria to make selection decisions. Therefore, all my models examined here focus either on the selection process or on selection criteria.

In order to capture the differences between the models emphasizing process and the models focusing on criteria, I use Mohr's (1982) examination of the differences between two

types of theory- process theory and variance theory- to frame my analysis of existing selection models. Mohr developed this distinction when studying theories of organizational behavior, where he broadly defined process theory as theory that “presents a series of occurrences in a sequence over time so as to explain how some phenomenon comes about” (p. 9). He explains variance theory as “the common sort of hypotheses or model, [...], whose orientation is toward explaining the variance in some dependent variable” (p. 9). Mohr then argues that the two types of theory are different in the following four ways:

First, the relationship between precursor and outcome is different in the two types of theory, and thus researchers can use them in different ways. Mohr broadly defined precursor as “a set of events and conditions” connected to the outcome (Mohr, 1982, p. 36). According to Mohr, in the process theory, the precursor is a necessary, but not a sufficient condition, for the outcome. This means the outcome always occurs with the appearance of the precursor, but the precursor alone cannot guarantee the occurrence of the outcome. Mohr then argues that process theories are most suitable for “reconstruction of the past” (p. 54), because they allow researchers to establish linkages among events, and thus enhance understanding of what occurred in the past, and how and why it happened. In contrast, for a variance theory, the precursor is a necessary and sufficient condition for the outcome, which means the precursor will lead to the outcome and the outcome will not occur without the precursor. Therefore, Mohr explains that researchers often use the precursor to predict or control the outcome. Further, Mohr critiques the overemphasis of prediction of outputs in social science, claiming that it is due to “the prevailing variance-theory orientation”. Then Mohr emphasizes that process theory works best in examining “phenomena other than the outcome” (p. 54).

Second, two types of theory, process and variance, deal with different types of data. On the one hand, process theories deal with a series of discrete states and events, which researchers express as sequential actions. On the other hand, variance theories deal with variables, which researchers express in quantitative levels or amount; and thus, the variance model can be put into the format of a mathematical function. In the selection models I reviewed, all the process models provide a series of steps for selectors making a purchase decision, and the description is qualitative rather than quantitative, while the selection variance/criteria models adopt different strategies for developing numerical calculations related to purchase decisions.

Third, the two types of theory involve different types of causality. According to Mohr, process theories involve pull-type causality by emphasizing the final cause, which is “an end point whose existence connotes the occurrence of certain prior events” (p. 59). Process theories suggest that once the outcome is present, then all the steps contained in the process must have occurred. Variance theories involve push-type causality by focusing on the efficient cause, which he defines as “a force that is conceived as acting on a unit of analysis to make it what it is in terms of the outcome variable or change it from what it was” (p. 41). Variance theories treat each precursor variables as an efficient cause and assume that each one has a separate impact on the outcome, no matter whether it works alone or combines with other precursors.

Last, according to Mohr, the two types of theory treat time ordering of precursors differently. The time ordering among contributory events plays a critical role in process theories, because the model focuses on the causality between consecutive pairs. In contrast, there is no time ordering among variables in variance theories, because they assume all variables happen at the same time. In other words, temporal ordering in variance theories may not be as important as it is in process theories.

Based on Mohr's discussion of the differences between process theory and variance theory, I divide the selection models included in this study into two categories: process model (P) and variance model (V). I broadly define a selection process model as a model including activities that are in chronological order, while a selection variance model is a model that contains selection criteria and their measurements or calculation. It is possible that a selection model contains components from both process and variance theory (V+P). Table 4-1 below provides an overview of the eight selection models analyzed in this chapter. As shown in table 1, I found more V models, or V+P models, and few P only models.

Table 1: Summary of the meta-analysis of selection models

	Author (s)/ date	Fundamental principle(s)	Model type	Presentation	Transferability to e-book selection
Print Book	DePew (1975)	<ul style="list-style-type: none"> Acquisition is triggered by request Acquisition is not the only decision outcome 	V + P	Flowchart of acquisition decision-making process and equation of decision	<ul style="list-style-type: none"> Combination of variance model and process model Distinguish different aspects of a request Duplication examination
	Atkinson (1984)	<ul style="list-style-type: none"> Selection can reduce to manipulation of citation Citations work as "intertext" 	V	Figure of conceptual selection contexts	<ul style="list-style-type: none"> Inclusion of both objective and subjective factors Impact of past selection patterns on current selection
	Rutledge & Swindler (1987)	<ul style="list-style-type: none"> Differently prioritized criteria Decision outcomes: must, should, and could Irrelevance of budget availability 	V+ P	Table of selection criteria and their values	<ul style="list-style-type: none"> Point system consisting of different selection criteria with different weights
	Losee (1987)	<ul style="list-style-type: none"> Select a book if the cost of selecting is less than the cost of not selecting Criteria independence 	V	Formulas to calculate each book's selection criteria function (SCF) value	<ul style="list-style-type: none"> Distinguish different data types of selection criteria Consistence of the selection practices

E- Journal Packag e	Hahn & Faulkner (2002)	<ul style="list-style-type: none"> • Methods for evaluating print journals also work for e-journal packages • Use benchmarks to evaluate candidates 	V + P	Four benchmark metrics in terms of cost and usage	<ul style="list-style-type: none"> • Benchmarks based on current collections as a framing system to evaluate the candidates
	Cater, T., Cater, A., & Broomes (2006)	<ul style="list-style-type: none"> • Reliance on three core lists of journals developed by medical communities 	V	Selection criteria with suggested priorities	<ul style="list-style-type: none"> • Using core lists to evaluate the content of a package • Priorities set among different criteria
Bundle d product	Yadav (1994)	<ul style="list-style-type: none"> • Using anchoring and adjustment strategy to simplify the evaluation of bundled products 	P	Figure of evaluation process	<ul style="list-style-type: none"> • Examine whether and how librarians identify anchor items in an e-book product • How to deal with multiple variables with different importance
	Mikkonen, Niskanen, Pynnönen & Hallikas (2015)	<ul style="list-style-type: none"> • Theoretical model developed through literature review • Two stages in decision process: before and after purchase 	V	Figure of affecting factors which are divided into four quadrants	<ul style="list-style-type: none"> • Distinction between purchasing decision of a new product and retention decision of a current product • Emotional factors as selection criteria

For each model included in this chapter, I briefly describe the following aspects:

- (1) Primary goals: what specific questions or challenges this model is designed to solve
- (2) Fundamental principles: what are the major assumptions used to design this model;
- (3) Variables: if it's a variance model, what are the selection criteria;
- (4) Process: if it's a process model, what are the different steps in selection;
- (5) Cutting point: what are the cutting points in this model for selecting a book;
- (6) Uniqueness: how is it different from other models;
- (7) Usability: how easy is it to implement this model to library selection practice;
- (8) Transferability for e-books: which parts of this model can be applied to e-book

selection.

4.3 Selection models for print books

4.3.1 Introduction of this section

In this section, I systematically analyze four book selection models based on the eight questions above. I chose these models to analyze because they met my selection criteria as discussed in Chapter 3, where those models either include selection criteria and their measurements or describe the workflow of the selection practices. The models include two V models and two V+P models. All four models were originally designed for developing print book collections in academic libraries in the late 1970s or 1980s. At the end of this section, I also discuss two major challenges when applying those print book models to the e-book product selection practices.

4.3.2 DePew (1975) V+P

(1) Primary goals:

DePew noticed that no models at that time described the intellectual process for selectors in academic libraries to make acquisition decisions. DePew's model combines a flowchart (P), as demonstrated in Figure 1 in Appendix II, and an equation (V) to represent the various steps and variables librarians consider throughout their decision-making process. DePew notes that this model is not a "final product," which means it still needs to consider more information, such as "institutional goals, the curricula, and academic community needs" (p. 246), before be applied to actual selection practices, and it aims to simulate further discussions and research of the acquisition decision process.

(2) Fundamental principles

DePew's model assumes the following conditions:

- Any acquisition decision is triggered by a specific request;
- The outcome is not necessarily acquisition but can include alternative actions, including: borrowing the book from depository or through ILL, referring the request to other local libraries or library consortium for potential acquisition, deferring the decision, declining the request, and discarding the book from gift or exchange collection;
- Libraries might purchase a new or used version; or catalog this book if it comes from a gift or exchange;
- DePew's model places highest weight on the power-base and availability of funds variable.

It is important to point out that this model depicts the acquisition decision process, which is not the same as the selection decision process. An acquisition decision determines whether or not to add certain titles into library's collection regardless of means, while selection process focuses more narrowly on which products to purchase. It is possible that there is an overlap between selection process and acquisition process, when there is only one product available for library to fulfill certain demand; therefore, selection process is to determine whether or not to purchase this product; however, selection process includes other steps that are not parts of the acquisition model.

(3) Variables:

This model includes multiple variables, and I put them into four different groups, as discussed below.

Group 1: Potential use of book

- What this book could be used for (G)⁶;

⁶ The letter put in the parentheses is the code used in the original model for a specific IV.

- Whether the book will be placed on course reserve (H);
- Quality and type of this book (Q);
- Whether this book has been included in a relevant bibliography (B);
- Whether this book has certain intellectual level (L);
- Formal review of this book (R: this code is used for two variables)

Group 2: request/requestor of book

- Source of the requestor's information (S);
- Identity of the requestor (F);
- Whether the requestor is a power-base (P);
- Evaluation of requestor's judgement (R);
- Number of previous requests of a same book (n);
- Whether the requestor will cause trouble if this request is declined (T);

Group 3: Availability of book

- Whether the book is currently held in library (C);
- Whether this book is held by any depository that the library has access to (D);
- Whether this book can be borrowed through ILL (A);

Group 4: Budget:

- Availability of budget (M);

(4) Process:

This model includes a flowchart that depicts sequential steps, as described below:

- I. Check the availability of the requested book in their current collection;
- II. Determine the identity of the requestor;
- III. Evaluating the content of this book through multiple aspects;

IV. Make acquisition decision.

(5) Cutting point

This model uses an equation to calculate whether a requested book should be purchased or not. There are two situations that lead to a purchasing decision: first, the library should purchase a book if the requestor is a powerful stakeholder, and funds are available; second, even if the requestor is not a powerful stakeholder, a book should still be purchased when all other variables carry more weight than the budget restrictions.

(6) Uniqueness

First, this V+P model includes both a flowchart and an equation, which helps to describe the complex intellectual and practical processes of library acquisition decision. Specifically, the flowchart provides an overview of all the sequent steps that librarians need to consider during the decision-making process; while the equation provides detailed information that librarians need to make acquisition decisions based on numerical calculations. Therefore, this model depicts both the abstract and concrete approaches used in library acquisition decision.

Second, DePew describes a detailed weighting process for the variables contained in this model. Since this model uses an equation to help librarians make acquisition decisions, each variable should be represented in numerical values for further calculation. While there are different data types for variables contained in this model, the ways for assigning numerical values to those variables are also different. Specifically, several variables are binary variables, which only have two possible values (yes or no), and thus can be easily assigned two numbers to the possible values. For instance, for the variable C (whether a requested book is in the current library collection), this model uses “0” for “yes,” and “1” for “no.” Many other variables are ordinal variables, and they have multiple possible values and those values have a clear ordering.

For example, variable R (judgement of the requestor) has six different possible values and each is assigned a different number, from “11” assigned to “requestor has very good judgment” to “0” assigned to “requestor has bad judgment.” Furthermore, in this model, DePew explained the rationales behind this weighting process, which not only makes it much easier for the readers of this model to understand why certain numbers are assigned to different values of a variable, but also allows other librarians to assign different weights to the variables based on their local situations.

Third, this model introduces a variable of “n” to capture the accumulated requests for a same book. Library will retain the requests in a file for further consideration until the accumulated requests reach a preset threshold; once the requests exceed the threshold, the library will run the book through the decision model again to test whether the score is sufficient for a purchase.

(7) Usability:

This model is easy to apply to library acquisition practice, although its readers might take serious time to understand the rationals and meanings of different parts contained in this model. Specifically, the flowchart visualizes various routes for making acquisition decisions that reflect the complicated intellectual process. This model provides very clear instructions of actions for all the decision points in the flowchart, so that librarians always know where to go for the next step in this model. Moreover, despite the multiple variables included in the equation and the different possible values for each variable, this model explains the meaning of each variables and more importantly, the weighting process for each variable. Therefore, it should be straightforward for a library to calculate the score to determine whether and how to acquire a requested book. Additionally, DePew addressed that the weighting process is customizable, and the flexibility of

this model allows different libraries to make changes of the weights of those variables to reflect their local needs.

(8) Transferability to e-book selection:

This model sheds insights on the following aspects of e-book product selection practice:

First, this model presents a unique example for combining an abstract flowchart and a detailed equation to describe the complexity of the decision-making process. Similarly, e-book product selection practices also contain a series of decisions and include multiple variables that have weights affecting the final decisions. Therefore, it is suitable to use the combination of flowchart and equation to present the intellectual process of e-book selection practices.

Second, the model's emphasis on the characteristics of a request are unique. The model highlights the different aspects of a request (through introducing five variables: F, P, R, n, and T) to the decision-making process. As I learned from this model, it is important to examine the events that trigger the selection of e-book product. For instance, factors like who asks the library to purchase an e-book product or why this person suggests such a purchase could affect libraries' selection decisions.

Third, this model places high priority on budget availability, which remains the same in e-book selection practice. This model requires a requested book have more weights to be purchased than usual when the budget get more restricted. In other words, library would only purchase the most important book with very restricted funds; while less important book might be purchased when the funds are less restricted. In e-book selection, it is still critical to explore the impact of budget availability on libraries' selection decisions.

Lastly, this model requires the library to check whether the requested book is currently available to the library, and this duplication examination is also important for e-book selection.

As discussed earlier in this dissertation, a same e-book title could be included in different products; therefore, it is necessary to control the number of duplicated e-book titles, especially under the current financial constraint. Inspired by this model, librarians should investigate the overlaps between the titles contained in the targeted e-book product and the titles that are currently available to the library. A product with more duplicated titles is less desirable than a product with less overlapped titles when the other variables of the products are the same. This model also reminds librarians to examine the duplication through different sources, including library's own collection, its consortia's collection, or the available titles through ILL.

4.3.3 Atkinson (1984) V

(1) Primary goals:

Atkinson warns that most of the descriptions on the selection process consist of “superficial and self-evident generalities,” because “selection is always a private, cognitive activity that does not submit to precise observation or delineation” (p. 109). Therefore, Atkinson develops a hypothetical model to describe the title-level selection process in academic libraries (see Figure 2 in Appendix II).

(2) Fundamental principles:

The Atkinson model is based on two major assumptions- first, citation plays a fundamental role in book selection process, and therefore, this model explains how selectors understand and use citations for book selection. Note that “citation” in this model is a general term, which refers to “any string of natural-language signs that refers to or represents, regardless of its textual location, a particular information source or set of sources” (p. 109). According to the definition, any text that refers to other source(s) is a citation; therefore, there are multiple

types of citations, including but not limited to references in a journal article, book reviews, course reserves, library catalog, and publishers' product catalog.

Second, Atkinson believes that citations work as "intertext," which means individuals' understanding and evaluation of a citation is an interaction between the text and the reader; therefore, the evaluation of a citation is relative rather than absolute, and depends on its place in the context. As for the book selection, this assumption suggests that the contexts where the selectors find or use the citations will affect their final decisions of whether or not to include the cited titles in library collection.

(3) Variables:

The Atkinson model describes the contexts in which selectors determine the meaning and appropriateness of a cited item, and thus this model includes three categories of contexts, each of which contains several variables.

The first category of context is the "syntagmatic context," which describes how the information contained in a citation can influence selectors' decisions on the cited books. This context's variables consist of the elements included in a citation: author, title, place, publisher, date, length, and cost of the cited books.

The second category is the "contexts of supplementation," which refer to the information about the sources of the citations used for selection. Atkinson divides supplementation contexts into two sub-groups: direct supplementation and indirect supplementation. Direct supplementation is the information from a selection source that increases the selector's knowledge of individual components of the citation: subject matter, or publisher, or date of the cited document. Some examples of direct supplementation are subject heading of the cited books, or notes in a catalog. Indirect supplementation is the information in a selection source that

is not directly linked to a citation, but can be used to increase selectors' understanding of the cited books as a whole. For instance, variables might include the place where a review of a book (i.e. a citation) appears, or whether a book is included in a core list.

The third category of contexts is the "contexts of resolution," or information about each library's local situation, which Atkinson describes as "the most crucial to selection and the most elusive" (p. 114). He divides the contexts of resolution into three interrelated but also competing contexts: 1) the archival context, referring to the selectors' knowledge about the current collection; 2) the communal context, referring to the selectors' understanding of the users' needs; and 3) the thematic context, referring to the selector's knowledge about the current publications in certain fields.

In addition to the three categories of contexts discussed above, this model also includes budgets as a variable in selection process, arguing that budgets manage the interrelationships among the three contexts of resolution, rather than working as the "basis of selection." Therefore, this model assumes that given larger budgets, libraries can focus more on one of the three contexts of resolution; while with a tighter budget, libraries tend to maintain a balance among the three contexts, rather than placing more emphasis on one of them.

(4) Process:

This model does not describe the sequence orders of the selection process.

(5) Cutting point:

This model does not specify any cutting points for selecting certain books.

(6) Uniqueness:

There are three unique aspects of this model: First, this model assumes that library book selection is citation-driven. Second, this model recognizes that book selection is a private

activity; therefore, it develops the contexts of resolution to capture the local factors that are unique to each individual libraries and selectors. Last, this model argues that the three contexts of resolution- archival, communal, and thematic- should be prioritized differently in book selection. It claims that there is always one context that selectors place more emphasis on during the selection process.

(7) Usability:

This model depicts what contexts selectors need to consider when making book selection decisions. Given a copy of this model (see appendix), selectors can list all the related contexts and their variables. However, this model does not provide practical guidance on how to deal with conflicts among multiple contexts and their variables. On the one hand, this model gives higher prioritization to the contexts of resolutions over syntagmatic context and contexts of supplementation, and it claims that there is always one dominant context among the three contexts of resolution; on the other hand, this model also states that some contexts with lower priorities could create an accumulative effect to obstruct the authority of the dominant context. Due to the lack of quantitative measurement or sequent steps or other practical guidance in this model, it is difficult for selectors to determine whether or when the accumulative effect would occur.

(8) Transferability to e-book selection:

The major lesson e-book selectors could learn from this model is that selection is influenced by both objective and subjective factors. Specifically, the objective factors in this model are the first two categories of context, which are used to evaluate the citation itself and the sources of citation, while the subjective factors are the three contexts of resolution to address the local situations. For developing an e-book selection model, it is still important to include both

objective and subjective factors to provide some criteria and their measurements that can be directly applied to different libraries, while developing other criteria to accommodate individual libraries' local needs.

Another insight this model could provide to e-book selection is that it briefly mentions that the past selection patterns could affect the decisions on future selection decisions. It suggests an investigation of the previous selection patterns, of e-books, e-journals, or even print books, and their potential influences on the current e-book selection.

4.3.4 Rutledge and Swindler (1987) V+P

(1) Primary goals:

The authors claim that selection librarians in academic libraries lack sufficient tools that could provide practical assistance for selection decision making and that none of these tools could provide a practical way of considering a library's budget for the selection process. Therefore, the authors developed this model to provide a "succinct, rapidly scannable" tool (p. 128) to help selection librarians "rationally [organize] the factors contributing to an acquisitions decision" (p. 123).

(2) Fundamental principles:

This model makes three assumptions:

- Librarians' selection decision-making processes are influenced by many factors, which vary in terms of their impact on the selection decision.
- The selection decision process categorizes books into three priorities: "must" have items, "should" have items, and "could" have items (p. 128).

- Selection decisions are different from purchase decision. The selection decision determines how important it is for a library to have a certain book- regardless of budget. Since this model focuses just on the selection decision, it does not treat the cost of a book as a factor.

(3) Variables:

This model includes six variables affecting librarians' selection decision-making processes, which are also "internally coherent [...] and mutually exclusive" (p. 126). Moreover, this model assigns different weights to these variables in terms of their impacts on selection decision; for each variable, the model further divides it into three levels of priorities (must, should, and could), and assigns values to the different priority levels under the same variable, which is demonstrated in Table 1 in the Appendix II. Below, find the list of six variables in descending order of weight significance.

- Subject (most important): The subject area(s) a certain book covers and an evaluation of how relevant the subject(s) covered in the book are to the library and its relevance to the larger intellectual universe.

- Intellectual content: The intellectual quality of a certain title; for instance, if a book is a key work in a field or written by a key author in that field.

- Potential use: Patrons' needs for a certain book; for example, whether a book is requested by a patron and how frequently this title will be used in the future.

- Relation to the collection: Whether or not this book is central or closely related to the current library collections.

- Bibliographic considerations: The reputation of the publisher and the format of a certain book.

- Language: this criterion is used to determine whether the language of a book is the major working language of the field.

Because the first three variables carry more weights than the last three, this model suggests that it is not always necessary to evaluate all six variables to make a selection decision.

(4) Process:

This model suggests librarians evaluate the six selection criteria in the order of descending importance, which means first evaluating the “subject” criterion and saving the “language” criterion to the last one for evaluation. After librarians determine the weights for each selection criterion, a cumulative score for a certain book should be calculated as the total of those weights under each selection criterion, which would then be used to determine the priority level of this book.

(5) Cutting point:

This model aims to help librarians decide into which priority level a book should be put through a numerical system. On a 100-point scale, this model proposes different ranges for the three priority levels: for first priority (must have item): 67-100; for second priority (should have item): 34-66; and the third priority (could have item): 1-33.

(6) Uniqueness:

There are three unique aspects of this model:

First, this model introduces three levels of priority to each of the selection criteria as well as the final selection decisions. Further, it proposes a range of numbers, rather than a specific number, for the different priority levels under each criterion. This classification and weighting can remind librarians to be aware of the transformation of quantitative (differences within the same priority level) into qualitative changes (different priority levels). Second, this model

assumes criteria impact the selection decision in various ways, so it assigns different weights to those criteria. Third, this model distinguishes the selection decision from the purchase decision and thus does not consider price.

(7) Usability:

In general, this model should be easy to implement in library book selection practice. It provides a point system for librarians to easily calculate the final score of a certain book, and to determine its priority level. It also proposes specific cutting points for each priority level of individual books. Further, this model also allows librarians to change the weighting of criteria to address their local needs. Another feature in this model that helps its implementation is it provides detailed descriptions on different priority levels of each selection criterion, as demonstrated in Table 2 in the Appendix II. This allows librarians to understand what a certain level of a certain criterion means, which helps their weighting processes, and thus ensures their consistency among different librarians and over time. Moreover, for each selection criterion, this model provides several specific questions for the selectors to objectively evaluate the priority level of a certain title under this criterion.

(8) Transferability to e-book selection:

The major feature in this model that librarians can apply to e-book product selection is its point system. With measurable variables and specific methods to assign weights to each of the variables, this model provides a practical tool for librarians to make quantitative, systematic, and consistent selection decisions based on the point system. Also, the six variables included in this model can work as important selection criteria for making e-book product selection decisions.

4.3.5 Losee (1987) (V)

(1) Primary goals:

This model concentrates on the interrelationships among selection criteria and suggests a formal method for selection librarians to combine selection criteria to make selection decisions.

(2) Fundamental principles:

This model has three assumptions: First, the model assumes that a library should select a book if the cost of selecting it is less than the cost of not selecting it. Second, this model assumes selection criterion independence, or that selection criteria do not interact with each other. Third, this model claims that, given the criterion independence assumption, selection criteria can be divided into three different groups in terms of the data type: (a) binary criteria, which can only have “1” or “0” as their values, such as whether the book is published by certain publishers; (b) Poisson-distributed criteria, whose frequencies of occurrences are non-binary integers, such as the number of positive terms in a book review; and (c) normally distributed criteria, referring to those criteria that are continuous and normally distributed, such as the price of a book. Fourth, the more similar features a book candidate has when compared to the current library collection, the more likely the book will be selected by librarians.

(3) Variables:

As mentioned earlier, this model does not aim to provide a list of selection criteria; instead, it introduces the concept of Selection Criterion Function (SCF), which can be calculated for each potential book to determine its priority for being selected. To calculate the SCF, librarians need to compute the probabilities that a certain criterion is and is not present in the current selected and rejected books.

(4) Process:

This model does not specify any steps when making selection decisions.

(5) Cutting point:

This model provides a method to calculate the SCF value for each book, and ranks them based on the SCF value from high to low. Librarians then select books from highest SCF value, until they reach a cutoff point, which can be established locally or by budgets.

(6) Uniqueness:

This model is unique in the following aspects: First, the model points out three different data types for selection criteria and then uses different mathematic methods to calculate their SCF based on the different data types. Second, this model provides a tool for librarians to rank multiple potential books in terms of making selection decisions; however, the model itself cannot determine the cutoff point in the ranking for selection decision, because the cutoff point, as Losee claimed, is dependent on the local situation.

(7) Usability

Losee claims that use of this model does not require knowledge of statistics; however, since this model heavily relies on statistical theory, the statistical jargon and mathematical symbols in the model might make it confusing or even intimidating to some librarians. Therefore, the challenges librarians face in understanding the rationales behind this model may have hindered any further revisions of it.

(8) Transferability to e-book selection:

One thing in this model that can be useful for e-book product selection is its distinction between data types. Losee encourages readers to think deeply about how to include a certain criterion into the selection decision, and whether or not we need to set up an artificial number, or weights, to expedite the decision process. For instance, if a criterion is a decision point along the

process and it is a Poisson distributed data, like the number of concurrent users, then the selectors have to determine a cutoff point, for example three concurrent users, to move the decision process along. Similarly, if we think of determining the weight of a normally distributed criterion, like the price of an e-book product, we need to think about how transfer the actual value of the criterion (e.g., \$45.67) to a numerical weight in terms of making selection decision. Note that in addition to the three data types discussed in this model, there could be one more data type for e-book selection criteria - categorical. For instance, the business model of an e-book product could have multiple values: purchase, subscription with perpetual access, or subscription without perpetual access. These values are neither binary, Poisson nor normally distributed data. Another lesson learned from this model is that it addresses the impact of current library collection on librarians' selection decision, which suggests the importance of understanding the connections among the selection practices for print books, e-journal packages, and the current e-book products.

4.3.6 Limitations of print book selection models

By examining the selection models used for print books and discussing how they can be used in e-book product selection, I notice two major challenges for applying those models directly to the e-book product selection.

First and foremost, those models analyzed in 4.1 focus on decisions made on title-level, which does not equal to the product-level decision making process (one product includes many titles); therefore, it is challenging to use title-level variables for a product-level decision. Many variables used in print models need revisions or require large amounts of calculation when applied to the e-book product selection. For instance, in DePew's model, variable C is used to

examine whether a requested book is duplicated in the library's collection; however, it would require more work to compare the all the titles in an e-book product with library's current collection in order to calculate the number of duplicated titles in the product. Likewise, Atkinson's model claims that criteria for collection-level selection, or "macro decisions," are composed of the "abstractions drawn from pervious micro decision [i.e. title-level selection] experience" (p. 109). However, in the e-book product selection, many variables under the syntagmatic context, like author, title, and length, are difficult, or even meaningless, to calculate and then evaluate at the product level, because one product contains multiple e-book titles, and each of these titles has its own author, title, and length information. Moreover, several variables used for title-level selection are inapplicable in the e-book product setting. For example, variable H in DePew's model evaluates whether the requested book will be placed on course reserves; however, it is impossible to place a whole e-book product on course reserves; therefore, the H criterion cannot be directly used to evaluate an e-book product.

The second common challenge for applying the print models to the e-book product selection is price. The print book models analyzed here can be categorized into two groups by examining how they deal with price. The first category (Rutledge and Swindler, and Losee) includes the models that exclude price from their selection criteria, and the second category (DePew and Atkinson) treats price as a variable completely independent from other selection criteria. I argue that both ways of dealing with price in the selection hinder the application of the print models to e-book environment, because price is often a determining factor in e-book product selection, and it is always interrelated with other selection criteria (e.g., the higher the number of concurrent connections allowed, the higher the price).

The models that exclude price from the selection criteria claim that the price of book should not influence library's selection decision based on the assumption that selection decision is different from purchase decision. Those models provide effective tools for librarians to first focus on those non-cost factors to create a list of books with different priorities. With this list, librarians can purchase those books with higher priorities until reach a budget limit. This separation of selection from purchase simplifies the selection process, while also making the purchase decision more straightforward, because price is the only criterion when making purchase decision. However, I argue the price factor cannot be excluded from the selection process as suggested in those models due to its importance for making an e-book selection decision.

I argue that it is not useful and practical to separate the selection decision from the purchase decision in e-book practices, because in many cases, the two processes are commingled when examining the e-book products. Due to the high price of an e-book product and the complicated selection process, it is unlikely that a library would first create a long list of e-book product candidates based on their importance and then consider price to make the purchase decision, as suggested by the models from Rutledge & Swindler and Losee. Because libraries nowadays often have flat or even reduced acquisition budgets, and the price of an e-book product is much higher than the price of an individual print book, it would waste time to rank all the e-book candidates and later find out at the end that the library cannot afford a certain e-book product due to the price. Therefore, it becomes impractical to evaluate all the available e-book products before librarians examine the price to make the final purchase decision.

Models that treat price as an independent variable among all the selection criteria will encounter challenges explaining the interrelationship between price and other criteria in e-book

product selection practices. As discussed in the literature review, some articles point out the complexity of e-book products price, largely due to its dependence on other selection criteria, such as ownership, licensing, and DRM. Therefore, it is inappropriate for this study to examine the price factor separately from the discussion of other relevant selection criteria.

4.4 Selection Models for e-journals

4.4.1. Introduction of this sections

In this section, I first analyze two selection models from the 2000s used for e-journal packages, using the same eight questions as above. One model was a V+P model and one was a V model. Since e-journal packages and e-book products are both bundled electronic resources, the examination of the e-journal models could provide some insights into e-book product selection. I also show how neither e-journal model can be directly applied to e-book selection practices due to the unique variables contained in e-book products and the unavailability of some external resources that can aid the selection.

4.4.2 Hahn and Faulkner (2002) V+P

(1) Primary goals:

Hahn and Faulkner (2002) claimed that most existing metrics used to measure the value of e-journals/ e-journal packages did not include usage statistics or evaluation metrics in selection process. The authors created this model to incorporate those measurements to develop a set of benchmarks to help librarians make e-journal selection decisions.

(2) Fundamental principles:

This model heavily relies on the standards used to evaluate the value of print journals, which, as claimed by the authors, work as a “reasonable equitable quantitative evaluation tool”

(Meyers & Fleming, 1991, p. 87). They depict two major approaches for assessing print journal values: the first one examines the price in the context of content; the second assesses the usages of the journals. Applying those measurements to e-journal setting, the authors sought to compare different e-journals/ e-journal packages with objective information.

This model also assumes that it is possible to use the usage statistics for current e-journals/e-journal packages to develop benchmarks for evaluating the e-journal or package candidates. This model emphasizes developing benchmarks with “comparable peer resources with known usage” (p. 219).

(3) Variables

This model suggests librarians calculate the following four types of metrics for potential e-journal packages when making selection decisions.

- a) Average cost per article for the potential package = $\text{Price of potential package} / \text{number of articles included in this package}$;
- b) Cost-based usage benchmark = $\text{Price of potential package} / \text{Cost per access of peer package}$. This benchmark aims to help librarians determine the usages needed to achieve a comparable cost per access.
- c) Content-based usage benchmark = $\text{Collection size of potential package} * \text{Content-adjusted usage of peer package}$. This benchmark is used to calculate the usages a potential package needs to receive in order to reach a comparable usage level per article.
- d) Cost per access at the content-based benchmark = $\text{Price of potential package} / \text{Content-based usage benchmark}$. This benchmark helps to determine the average cost per access for a package candidate if it achieves its content-based usage benchmark.

Note that the three usage-benchmark metrics cannot predict the actual usage of a potential e-journal package; rather, they provide the minimum usages a package candidate need to obtain in order to ensure an equivalent or greater usage value when compared with the current investment.

(4) Process:

This model instructs that selection librarians need to first determine a peer package in the library's current collection to use as a benchmark, then calculate the four types of metrics for a potential package. Then, librarians can decide whether the cost per articles is acceptable, and whether it is feasible for this candidate package to achieve those usage statistics, which would then help them make selection decision.

(5) Cutting point:

This model does not provide any specific cutting point for librarians to make selection decision. Rather, the cost and usage metrics developed in this model just work as a "powerful framing system" and "context for decision-making" for librarians to evaluate potential packages (p. 223-224). Therefore, librarians, by considering some local factors, such as availability of budget and marketing strategies for new e-journals, would determine whether or not the cost and potential usages are acceptable for this e-journal package candidate; and thus, different libraries could make different selection decisions even with the same metrics.

(6) Uniqueness

The uniqueness of this model lies in the benchmarking method to evaluate e-journal package candidate. It is a combination of objective data and subjective evaluation. Specifically, the benchmarks are built on the metrics of a similar e-journal package, which is in a library's current collection. Data needed for creating the metrics, including price, number of articles, and

usage statistics, are all objective data; while the process librarians use to identify the peer package, and then to determine whether or not a candidate is acceptable based on the benchmarks are subjective, which suggests that different libraries, or even different librarians within the same library, might make different benchmark selection decisions leading to different objective data, or they might make different decisions based on the same objective data.

(7) Usability

The unique combination of objective data and subjective process brings both benefits and challenges in the application of this model. On the one hand, this model specifies the exact data needed in order to develop the benchmark; meanwhile, all these data are relatively easy to obtain, either through the providers, like the information about price and number of articles, or directly through usage statistics. Further, the selection/evaluation process suggested by this model is straightforward; therefore, it should not be difficult for librarians to follow those steps to collect and manipulate the relevant data. On the other hand, the subjective components in the model add a layer of ambiguity to its implementation. This model does not explain what counts as a peer package, nor does it discuss how to use the benchmarks to make the final selection decision, which further hinders the implementation of this model.

(8) Transferability

The idea of benchmarks can be applied to the selection practice of e-book product. I argue that one efficient way for librarians to build their selection criteria and preference is benchmarking, as suggested by this model. Librarians can learn from their current e-book products, or even from other libraries' experience with certain e-book product, to better understand all those variables associated with an e-book product, and their local preferences for the variables. They can then develop benchmarks as a framing system to evaluate the candidates.

Note that the four specific benchmarks contained in this model could be directly transferred into the e-book selection, because they capture the two important aspects of e-book product: price and usage; however, those four benchmarks are not sufficient to cover all the important variables of e-book selection, and more variables need to be added to this model.

4.4.3 Cater, T., Cater, A., and Broomes (2006): V

(1) Primary goals:

This model aims to provide a tool for assisting medical librarians making selection decisions of e-journal packages. Its primary goal is to help them identify packages containing journals that are most likely to be used by library patrons while still within the budget of the library.

(2) Fundamental principles:

This model heavily relies on three core lists of “ideal” journals developed by medical communities: the Brandon/Hill (BH) selected list of journals for the small medical library, the BH minimal core list of 60 journals, and the academic medical library core journal list developed by the Florida State University (FSU) College of Medicine Medical Library. The reasons this model chooses these three lists include: 1) medical library communities widely use these lists, particularly the first, to identify highly used titles and 2) these lists broadly cover journals for users in both community hospitals and medical schools.

(3) Variables:

This model evaluates the following e-journal package variables to use when making selection decisions:

— Coverage of core journals: this criterion is used to determine the overlaps between a package and the core lists. Particularly, this model asks librarians to identify the numbers of journals in a package that are listed in each of the three core lists, and then calculate the percentage of a core list being covered in this package for all three lists.

— Average price of covered core journals: this criterion can help librarians estimate the cost-effectiveness of the package by dividing the price of the package by the number of core journals in this package.

— Coverage of library current print journals and the average price per journal: this criterion is similar to the previous two criteria but is used to evaluate the overlap between the package and the library current print journal collection. It can provide useful information for librarians to estimate the possibility of canceling current print journal subscriptions.

— Embargo on current issues: this criterion is used to identify whether or not the package imposes an embargo on the most recent issues of their journals, and if so, for how long. This model argues that this criterion is important because in many cases - when making a health care decision, for instance - medical library users require immediate access to the e-journals, and thus the embargo period limits the usefulness of those content.

— Ease of use: this criterion refers to whether or not the package provides direct links between the citations in an article and the full texts of the citations.

— Inclusion of secondary sources: this criterion is used to determine whether a package contains any sources of summaries of evidence along with the full-text scholarly journals.

(4) Process:

This model does not identify steps in the selection decision process.

(5) Cutting point:

The final package selected by the librarians, as suggested by this model, should meet all the last three selection criteria discussed above, which are also binary criteria: no embargo, linkable citations, and inclusion of secondary sources. As for the criteria regarding the coverage of the core lists and average price of the covered journals, this model suggests that librarians, within the available budget, set higher priority to the coverage rather than the price. Further, the model suggests that the criterion evaluating the coverage of the current library print journals should be assigned a relatively low priority when compared to other criteria.

(6) Uniqueness

This model is unique because it relies on three major lists of core journals to determine the coverage of an e-journal package candidate. Since content has been one of the major selection criteria for years, regardless of the format of the resource, this model provides an effective and efficient way to evaluate the content of an e-journal package by examining the overlaps between the journal titles contained in a candidate package and the three core lists.

(7) Usability

This model provides a straightforward method to help librarians make selection decisions of e-journal packages. First and foremost, this model develops a workable way to evaluate the content of an e-journal package: the three lists are publicly available and also with wide acceptance in medical library field, meanwhile it is not difficult to obtain the list of journal titles covered in a package; thus, librarians can easily calculate the coverage of a package candidate. Second, this model provides clear guidance on how to deal with multiple criteria for making final selection decision. Specifically, this model use criteria that are in binary data type as decision points to determine whether or not to move the candidates into next step of decision process, and

it assigns different priorities to other non-binary criteria, which makes this model relatively easy to implement in other libraries.

(8) Transferability

This model provides several insights into e-book product selection practices. First, the method used to evaluate the content of a medical e-journal package can also be transferred to e-book product setting. Because both types of electronic resources are collections of multiple individual titles, it is challenging to evaluate the content at the collection level; however, this model provides an objective way to calculate and then evaluate the content of a package. The challenge for applying this method to e-book selection is to find similar core lists, because in many cases, an e-book product contains books from multiple disciplines, and there might not be any core book lists in many disciplines. Second, this model demonstrates how to employ different methods, such as chronicle order and weighting process, to combine multiple selection criteria to make final decision, and thus, it can work as an example for e-book product selection, where librarians have to deal with multiple variables in different data types.

4.4.4 Limitations of the selection models for e-journal packages

Examining the two selection models used for e-journal packages, I notice two major challenges for applying them directly into e-book selection.

First, neither models cover some important variables in e-book products. As analyzed above, the Hahn and Faulkner model mainly focuses on price and usage, while the Cater et al. model includes more variables (e.g., embargo and usability); neither include criteria commonly used in e-book selection practices, as revealed in the literature review, such as the business model or the number of concurrent users. Many of these e-book variables do not even exist in the

e-journal environment. As discussed earlier in Chapter 1, e-book products are not just the digital version of print books; rather, the digital technologies add multiple variables to an e-book product, and some of those variables are even new when compared with bundled e-journal packages. For instance, the majority of e-journal packages do not limit the number of simultaneous users, and thus librarians would not treat the number of concurrent users as an important selection criterion to distinguish one package from others; on the contrary, many e-book products do provide multiple options in terms of the number of concurrent users, and therefore, librarians often treat this variable as one of their selection criteria.

Second, to make selection decisions, both models rely on external resources, which might not be available for e-book selection decisions. Specifically, Hahn and Faulkner's model relies on the identification of a peer package to calculate the benchmarks used for evaluating e-journal candidates, while the model from Cater et al. largely depends on the existence of three core lists of journals in the medical field to assess the content of a candidate package. As explained earlier in the transferability of each model, both external resources - similar peer product and widely accepted lists of core titles - might not be available for librarians when making e-book product selection decisions. It is challenging for librarians to identify a peer product in their current collection, and also challenging for them to find a list of core book titles in certain fields or even across disciplines, and the lack of those external tools hinders the application of both e-journal models in the e-book environment.

4.5 Selection Models for bundled products in marketing and consumer research

4.5.1 Introduction of section

In this section, I analyze two marketing and consumer research models that describe how consumers selected bundled products in the 1990s and 2000s. One is a P model and one is a V model. These models share some similarities with libraries' e-book product selection: an e-book product is a type of bundled product, and libraries act as consumers, although they are institutional rather than individual consumers. Further, as revealed in the literature review, the library literature seldom cites studies from other fields when examining selection processes, but it is valuable to learn from the models outside of library literature. I analyze the two marketing models using the same 8 questions as above. Discussion on how this model can be applied to library e-book selection will be provided under "transferability." At the end of this section, I argue that the differences in individual decisions and institutional decisions create obstacles for both marketing models being used for library e-book selection.

4.5.2 Yadav (1994) (P)

(1) Primary goals

In 1994, Yadav critiqued the literature on bundling, arguing that most of it only focused on the market-level analysis of the rationality of bundling, while ignoring individual buyers' behaviors in terms of evaluating bundled products. Therefore, Yadav developed this model to examine consumers' evaluation processes for bundled products.

(2) Fundamental principles

Yadav's model assumes that it is challenging for consumers to evaluate a bundled product due to the excessive information available for them to process in decision-making. Therefore, consumers adopt a strategy Yadav calls "anchoring and adjustment" to simplify the evaluation process by dividing the task into a series of smaller and simpler evaluations. Anchoring and adjustment strategy allows consumers to, first, focus on the most important item as the anchor item in a bundle to form an initial evaluation, and, then, they adjust their evaluation by taking into account the less important items in the bundle.

(3) Variables

Yadav finds the evaluation of the anchor item will affect consumers' tendency to adjust their overall evaluation of the bundled product. Specifically, if the product contains an excellent anchor item and moderate add-on items, then the consumers tend to adjust their evaluation downwards; however, if the product contains a poor anchor item and moderate add-on items, then consumers are less likely to adjust their evaluation upwards regardless of the quality of the add-on items. Therefore, the overall evaluation tends to be biased toward the anchor evaluation.

Second, Yadav suggests the number of items included in a bundled product might affect the biasing effects of the anchor evaluation. The more items contained in a bundled product, the stronger the anchor bias will be.

(4) Process

As shown in Figure 3 in the Appendix II, Yadav's model depicts three steps consumers must take to evaluate a bundled product. First is the scanning process, where consumers determine which items are included in a bundle. Second is anchor selection, where consumers select one item that is most important for the overall evaluation of the bundled product. Last is the anchoring and adjusting stage, where consumers evaluate the anchored item first and then the

rest of the items in descending order of perceived importance and make upward or downward adjustments to reflect the new information processed.

(5) Cutting point

Since this model focuses on consumers' evaluation processes of bundled product, rather than purchasing decision-making processes, it does not discuss the cutting point for a consumer to decide whether or not to purchase a bundled product.

(6) Uniqueness

The uniqueness of this model lies in its suggestion that items contained in a bundled product have different impacts on consumers' evaluation of the overall product. This model does not treat a bundled product as a whole package to study consumers' evaluation of the bundle-level variables; rather, it explores the processes consumers use to identify the most important items (anchoring) and the processes for consumers to adjust their overall bundle evaluation based on their assessment of different items (adjusting).

(7) Usability

It would be difficult for a library to implement this model directly, as it was not designed for libraries.

(8) Transferability

The idea of anchoring and adjusting, as suggested by this model, may be useful for understanding e-book product selection in the following two ways. First, it will be interesting to explore whether librarians identify any anchor items- in other words, most important e-book titles- when evaluating an e-book product. This would be a new approach to study librarians' selection decisions, because almost all the other studies focus on bundle-level variables, like price and DRM, but it is possible that librarians make their selection decisions largely based on

the impact of an anchoring item. For instance, it is possible that librarians choose a certain e-book product only because it contains some core e-book titles in the field. Therefore, it is critical to explore the individual titles' impact on librarians' overall selection decisions.

Second, the concept of anchoring and adjusting can also be used to explain how to deal with multiple bundle-level variables with different priorities. Here, anchoring refers to how to identify the most important selection criteria, while adjusting refers to the processes of how to integrate other less important selection criteria to adjust and then form the overall evaluation of an e-book product.

4.5.3 Mikkonen, Niskanen, Pynnönen and Hallikas (2015) (V)

(1) Primary goals

The critique from Mikkonen et al. (2015) charges that current studies of the process by which consumers purchase bundled products focuses too much on price, while ignoring other factors. Therefore, this model aims to provide a more complete picture of the factors affecting consumers' purchase decisions.

(2) Fundamental principles

This model is developed based on two major assumptions: First, the authors developed a theoretical model, as demonstrated in Figure 3 in the Appendix II, by summarizing all the affecting factors discussed by earlier studies on bundling purchasing and services. This theoretical model provides a starting point for the authors to further investigate more detailed factors and their different impacts on consumers' purchase decisions. Second, this model assumes that a decision-making process includes two different stages: before and after the purchase. Particularly, before the purchase, consumers form their preferences and compare a

certain bundled product with other bundles, or even with individual products; while after the purchase, consumers make a post-purchase evaluation of the current bundle product in terms of satisfaction, which also affects their next purchase.

(3) Variables

The authors' theoretical model shows eight aspects that affect consumers' bundle purchase processes, as shown in Figure 4 in Appendix II. Further, each factor contains several more specific variables about telecommunication bundles, which I will not cover. In descending priority, I describe the eight factors that are generalizable for many types of bundled products:

- Bundle functions: Variables describing the basic features provided by the bundle. It represents consumers' concerns about the product before they actually purchase it.
- Usage convenience: variables describing the technologically based enhanced capabilities and essential systemic features that help a customer to use and control the bundled product.
- Service satisfaction: Variables measuring Customers' satisfaction through their perceived value and quality of the bundle.
- Service risk: Variables related to annoying aspects of the current bundled product.
- Self-image: Variables for the social process of building a self-image through the usage of the bundle.
- Adaptation confidence: Measures customers' perceived and earned trust of the bundle.
- Provider responsiveness: Evaluates the interactions between bundle provider and the customers.
- Customer relationship: Assesses the depth of the bundle provider's customer relationship.

This model places those eight factors into four quadrants, where the horizontal axis represents the purchase phase- i.e. whether a factor is a pre-purchase investigation of the potential bundled services or is a post-purchase evaluation; while the vertical axis represents the level of rationality- whether a factor reflects the consumers' emotional or rational consideration.

(4) Process

This model does not specify any steps or stages in terms of making purchase decisions.

(5) Cutting point

This model does not discuss any cutting points for making purchase decisions.

(6) Uniqueness

This model is unique in the following two ways: first, it distinguishes two types of purchasing decisions: purchase decisions for new product and retention decisions for a current product. Further, this model argues that the criteria used to make these two types of decisions are different, and even if a same criterion appears in both types of decisions, its impact on the two types of decisions are different. For instance, this model suggests that a “provider responsiveness” criterion could be used in both types of decision-making; however, it plays a much more influential role in the retention decision than in the purchasing of a new product decision. Second, this model introduces emotional factors, such as customer self-image, and bundle adaptation confidence, into the decision-making process, claiming that those emotional factors have substantial influence on the decisions.

(7) Usability

It would be difficult for a library to implement this model directly, as it was not designed for libraries.

(8) Transferability

The two unique features in this model, as discussed above, can also be applied to library's e-book selection. First, the model reminds researchers and practitioners that retention decisions are different from new product purchase decisions, and that the criteria used in these two types of decisions are not the same. Therefore, it is particularly important to examine two sets of questions: how and why librarians select a certain new e-book product, and how and why librarians choose to keep or cancel a certain e-book product. Second, another lesson learned from this model is to take emotional factors into account when studying library e-book selection practices.

4.5.4 Limitations of the marketing models

The major challenge for applying both marketing models to library e-book selection lies in understanding the differences in the decision-making processes between individual customers and institutional customers. For institutional customers like libraries, their selection and purchase decision processes are often more complex than individual decisions. Institutional purchase decisions use institutional funds to purchase a product for the institution, the product must satisfy many different users, and the decision processes often involve multiple individuals. However, individual purchase decisions, as described in both marketing models, are made by individual customers for themselves, and thus the models do not examine the dynamics among the stakeholders of institutional decision-making. Further, producers use these two marketing models to understand individual customers' evaluation and purchase of bundled products so they can better configure those bundled products; therefore, neither model emphasizes the rationales behind customers' decisions. In other words, both models focus on explaining how customers make purchase decisions, but not why they make that decisions.

4.6 Meta-Analysis of Models

In this section, I first compare the models from the library literature in terms of their focus: whether a model depicts the selection process or whether it analyzes the measurement of selection criteria. Then I analyze the insights that the marketing and consumer research literature models could provide to librarians to help them make e-book product purchasing decisions.

4.6.1 Process models vs. Variance models

In the following section, I first analyze process models and variance models separately. Based on Mohr's discussions of the differences between process theory and variance theory, as summarized at the beginning of Chapter 4, I examine the differences between process models and variance models. Then I propose a concept model used for library e-book product selection, arguing that it is important to have components from both process models and variance models.

(1) Process models

Three models emphasized the selection process, including DePew, Hahn & Faulkner, and Cater, et al. (models marked with a "P"). Those models all depict the chronological order of activities involved in making a selection decision. I further divide those process models into two categories: macro process and micro process. Specifically, the macro process refers to the process librarians use to identify and then collect the information needed for making selection decisions; while the micro process refers to workflows librarians follow to make selection decisions after collecting all the information. In the following section, I analyze macro process models and micro process models separately.

The macro process occurs earlier in the selection practices and focuses on why and how librarians collect certain information that will be used in making purchase decisions. The models describing the macro process include the models from Hahn & Faulkner, and Cater, et al.. Hahn

and Faulkner's model describes the steps for identifying a peer product and then the reasons and steps for establishing evaluation metrics. The model from Cater, et al. depicts why and how to develop selection criteria.

The micro process happens late in selection, after librarians have already established selection criteria. This approach focuses on how different criteria may be more or less important in the selection processes; or, how different criteria have different temporal priority. Only DePew focuses on the micro process. DePew shows timelines for including different selection criteria at specific moments in the decision processes.

(2) Variance models

All six library selection models analyzed in this study contain components examining the selection criteria, as demonstrated in Table 4-1 (models marked with "V"). All six models, except the one from Atkinson, provide measurements of selection criteria. Those five models depict how to combine those pre-established selection criteria and then convert them into a numerical calculation in order to make selection decisions. Specifically, DePew's model demonstrates the weighting process of each selection criterion; Rutledge and Swindler provide a point system for assigning different weights to selection criteria based on different priority levels; Losee's model provides mathematical methods for calculating the Selection Criterion Function (SCF) to rank criteria for making selection decisions; the model from Hahn & Faulkner develops four specific metrics as benchmarks for librarians to evaluate e-journal candidates; Cater et al. merely specifies "requisite" or important criteria among all selection criteria. Those five variance models all aim to assign numerical values for each item so that librarians can rank those items based on their values to make selection decisions. Atkinson's model, the only variance model that does not contain any measurement of selection criteria, identifies three

contexts for using citations in book selection and explains how to integrate these contexts to make selection decisions.

(3) Differences between process models and variance models

First, based on Mohr's discussion on the differences between process theory and variance theory, the majority of models studied here were variance models or contained variance components. As variance models, they aim to provide frameworks for selectors to predict and control the purchase decisions. Among the three process models, two of them (Hahn & Faulkner, and Cater, et al.) focus on the reconstruction of past selection practices by explaining how their own libraries used those models to make e-journal selection. One thing to note that the number of variance models here in library selection practices also reflects Mohr's critique on the overemphasis of prediction of output in social sciences in general.

Second, the types of data examined in both models are different. In the reviewed selection models, all the process models tend to provide a series of steps for selectors making a purchase decision, and the description is qualitative rather than quantitative. The variance models, on the other hand, focus on developing numerical calculations to make purchase decisions.

Third, the differences in terms of causality in both models are not obvious as suggested by Mohr: my analysis of these selection models echoes Mohr's discussion only in terms of variance model; however, the process models I reviewed only demonstrate a weak pull-type causality between the precursor and outcome. Specifically, the variance models I reviewed emphasize push-type causality by assuming selection criteria will directly affect the selection decision. Moreover, these variance models treat the selection criteria's impact on purchase decision separately, which means each selection criterion will not affect selectors' evaluation of

other criteria. As for the process models I reviewed, most of them provide a series of steps, some of them even explain why librarians need to take certain steps; however, these models do not explain the causal or probabilistic relationships between every two steps throughout the process, as suggested by Mohr for process theory. It will be a challenge to develop a process model for selection that is fully compliant with Mohr's expectations about causality.

Last, process models examine the time ordering among events, while variance models do not specify the chronological order of variables. Particularly, the process models analyzed here specify the chronological order of activities when they describe the selection process, while the variance models use different weights to differentiate criteria's impact on the selection decision.

(4) Integration of process models and variance models

Despite the differences between the process models and variance models I analyzed, I see them as complimentary parts in selection practices. In his book, Mohr briefly mentions that process theory and variance theory can peacefully coexist in the case of application. He further states that it is common for picking and choosing certain elements from each theory to solve a particular applied problem. Drawing from this, I argue that selection process and selection criteria are two imperative components in selection practices and a more sophisticated selection model should include both. Borrowing the metaphors of ingredients and recipes from Mohr, I argue that selection criteria work as ingredients, because they represent different factors that need to be taken into consideration when making purchasing decisions, and often how much of each factor would affect the final decision. However, ingredients alone cannot guarantee a great dish; instead, we also need a recipe, which explains different steps for mixing the ingredients. In the case of selection practice, selection process functions as a recipe to guide selectors to take different actions at different times.

Below, I develop a selection model that contains elements from both process model and variance model, as demonstrated in Figure 4-1. Selection decisions often start with a macro process, where selectors first explore why or why not to include certain factors as selection criteria, and then they identify how to collection information about those selection criteria. After the establishment of selection criteria, and the gathering of information, selectors examine how to use the information and the selection criteria at different points in the selection decision process. They need to determine the interrelationships among selection criteria: Do criteria have different chronological orders depending on location in a selection process? Or should selectors consider criteria all at the same time (parallel factors) but with different weights? Or could there be a mix of both situations?

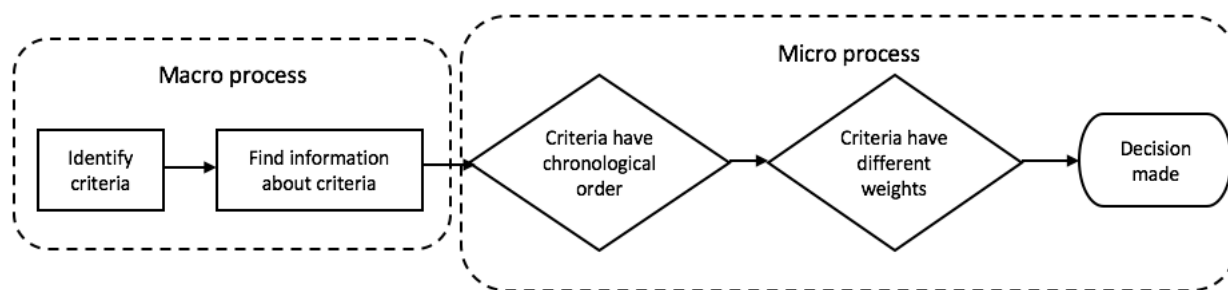


Figure 4-1: Combination of process and selection criteria in selection practices

I further refined this model based on the findings revealed in my interviews. I discuss my revised model in Chapter 7.

4.6.2 Marketing Models vs. Library Models

I also analyzed two models from marketing and consumer research. In the following section, I compare the two marketing models with those from library literature: I first briefly

describe the similarities among all those models, and then emphasize their differences, especially the new ideas librarians can learn from the two marketing models.

(1) Similarities: process model and variance model

Similar to the models from library literature, the two marketing models fall into the categories of process model and variance model. Specifically, Yadav's model focuses on consumers' evaluation process of bundled products; whereas, the model from Mikkonen et al. analyzes the general factors that affect consumers' purchase decision of bundled products, and thus can be treated as variance model. Both models also demonstrate the differences between the process model and variance model as pointed out by Mohr. First, Yadav's process model aims to understand consumers' evaluation behaviors rather than predicting the evaluation outcome; while Mikkonen et al.'s variance model provides a list of selection factors to predict and manipulate the purchase decision. Second, Yadav's model deals with a series of discrete actions, while the other model deals with factor variances, which then can be put in the form of mathematical function. Third, Yadav's model explains the causalities among those steps; while the other model assumes that the selection factors are mutually exclusive, which means their impacts on the final purchasing decision will not be influenced by each other. Last, Yadav's model includes events that have different time ordering; while the model from Mikkonen et al. assumes the time ordering is unimportant.

(2) Differences

In this section, I describe two differences I saw in the library models and the marketing models.

First, the driving forces of marketing models are different from those of library models. My analysis demonstrates that most library models tend to be developed based on actual practice

using inductive approaches, with authors drawing on their own local experiences and attempt to create a generalized selection practices. Meanwhile, the marketing models tend to be more academic and theory-driven, employing deductive approaches and using theory to drive data collection and analysis to develop results that explain the selection practices. Specifically, most library models are designed to solve a practical problem, or to develop a tool to help library selectors make better decisions or make decisions more easily. Therefore, the designers of those models first rely on observations of librarians' selection practices, mainly in local settings, and then propose a generalizable model from those specific observations. Unlike library models, both marketing models are built on theories related to selection process or affecting factors, and then the authors formulate hypotheses based on the models, which are later tested in a specific setting. By comparing the different modeling strategies in library and in marketing literature, it becomes clear that many library models encounter a transferability challenge because they are built on specific observations, while with little or no test of their application in other settings. On the contrary, the two marketing models are developed based on theories, whose abstraction could potentially better allow for the models' transferability.

Second, the two marketing models suggest new ways to explore the selection practices, which have not been discussed before in library literature. Largely due to their theory-driven research design, both marketing models introduce theoretical framework that can be applied to library selection practices. As discussed earlier in 4.4 on the transferability of marketing models, there are three ideas from the marketing models that will be useful to apply to e-book selection:

Idea 1: Anchoring and adjustment:

As introduced in Yadav's model, the concept of anchoring and adjustment emphasizes the impact of core items within a bundled product, which is new to library models. It will be

interesting to examine whether and how librarians identify anchor items in a bundled product, how selectors' evaluation of anchor items affects the overall evaluation of the product, and whether there is any shared understanding of anchor items among different libraries.

Idea 2: Distinction between purchasing a new product versus the retention of an existing product:

The model from Mikkonen et al. suggests two different types of purchase decision: the purchase decision for a new product, and the retention decision for a currently-used product. Depend on the different types of decision, the selection criteria might vary. For instance, usage statistics is one of the most common selection criteria for retention decision, but is not very common for purchase decision, because the data is not available in most cases for a new product.

Idea 3: Emotional factors

Another lesson learned from Mikkonen et al.'s model is that selection criteria can include emotional factors, like self-image and confidence of adaptation. Those emotional factors are seldom mentioned in library models, and it encourages my dissertation to gather data on how those emotional factors could affect the selection decision.

I further discuss how these ideas learned from marketing models can be linked to my findings revealed in interviews in Section 6.3.

4.7 Models and Institutional Theory

During my search for library selection models, I find that in the literature on selection practices, only a few of them meet my definition of a model. Many articles discuss selection criteria, but without using any method to measure the criteria or combine those criteria to make purchasing decisions. I argue that there are two strategies for making purchasing decisions:

- Selection models including process models and variance models (which I call “model strategy” in the rest of my dissertation), and
- General discussion of selection criteria (which I call “simple-criteria strategy”)

These two strategies represent two different stages of institutionalization of selection practices, which reflect two different rationalization efforts made by organizational decision-makers. In the following section, I first examine the institutionalization stages of both strategies, and then discuss the factors causing their institutionalization. Finally, I examine how the selection models can shape libraries’ selection practices through theorizing process.

4.7.1 Simple-criteria strategy: sedimentation

The many examples of general discussion of selection criteria I found in the literature suggest that many libraries rely on the simple-criteria strategy to make purchasing decisions. I argue that the simple-criteria strategy is an example of sedimentation structure in library selection practice. As discussed earlier in Chapter 2, sedimentation is a stage of full institutionalization, and it suggests both width and depth of a structure (in this case the practice of using simple-criteria), which means the structure has diffused across different types of organizations, and it has existed for a lengthy period of time. In the case of selection practices, wide reference to the strategy in the literatures suggests that the use of selection criteria has met both the width and depth requirements for the sedimentation stage: it has diffused across libraries in different type (public vs. academic) and size (small vs. large); the use of selection criteria has also existed for a relatively long time from the selection of print books to the selection of e-books.

It is worthwhile to further investigate the social influences that cause sedimentation of the simple-criteria strategy. Tolbert and Zucker claim that the major impetus for structure diffusion

during the sedimentation stage is normative pressure, while DiMaggio and Powell (1991) further contend that the normative pressure “stem[s] primarily from professionalization” (p. 70). In library selection practice, the normative pressure comes from two aspects: first is the formal education. As some library textbooks on collection development introduce this simple-criteria strategy as the major way to make selection decisions, this strategy has received legitimacy from textbooks. In other words, librarians have learned from the textbooks that this simple-criteria strategy is the right way to make selection decisions, and thus, they just follow this rule with minimum decision effort in their actual selection practices. Another source of normative pressure is the professional communication within the profession. As mentioned earlier, many library articles describe application of the simple-criteria strategy to make difficult decisions. They describe it without critique and without any indication that it is not a good strategy. These positive (or at least non-critical) portrayals of the simple-criteria strategy further enhances the legitimacy of the structure, and encourages its perpetuation over time. In future research, I plan to systematically examine LIS collection development textbooks to see how they represent the selection process.

4.7.2 Model strategy: from habitualization to objectification

As demonstrated earlier in this chapter, only a few articles among the library literature develop more sophisticated selection models to help libraries better understand the selection practices. I argue that the model strategy is in a stage between habitualization and objectification. Habitualization is a pre-institutionalization stage, where new structures appear; while objectification is a semi-institutionalization stage, where some degree of social consensus has been developed among organizational actors about the value of an existing structure. For the

models analyzed in this dissertation, they were new structures in selection practices at the time when they were developed, which is an example of habitualization.

In order to determine to what degree each of my models has been discussed by other LIS authors, I conducted a simple citation analysis, where I searched how many articles had cited each of those models studied here. Table 4-2 shows that the models have earned a modest number of citations.⁷ Note that I did not examine how those articles had used the models: whether they just briefly mentioned the models in the literature review or actually applied the models in selection practices. Regardless, it is safe to argue that those selection models only exhibit a very limited diffusion to other library selection thinkers, which then suggests that the model strategy has not achieved the objectification stage.

Table 4-2: Citation statistics of six selection models analyzed in this study

Model	Total citations	Years/ numbers of citation
DePew (1975)	13	1976(4), 1977(1), 1978(1), 1980(1), 1986(1), 1987(1), 1989(1), 1991(1), 1992(1), 2012(1)
Atkinson (1984)	32	1985(2), 1986(3), 1987(3), 1989(4), 1991(1), 1992(2), 1993(1), 1994(3), 1995(2), 1998(3), 1999(1), 2000(1), 2001(1), 2002(1), 2007(1), 2010(1), 2013(1), 2017(1)
Rutledge & Swindler (1987)	12	1988(1), 1989(3), 1990(1), 1991(1), 1992(1), 1994(1), 2000(1), 2003(1), 2007(1)
Losee (1987)	9	1988(1), 1989(2), 1990(2), 1992(1), 2003(1), 2005(1), 2007(1)

⁷ The citation statistics are obtained from the Web of Science (as of 4/13/2018).

Hahn & Faulkner (2002)	5	2004(1), 2006(1), 2007(1), 2014(2)
Cater et al. (2006)*	N/A	N/A

**Note: For Cater et al, no citation data can be found in the Web of Science, but Google Scholar shows it has been cited four times.*

It is not objectification, but it is moving toward objectification. Theorizing is a major step to move toward objectification, and the examples do show theorizing. However, my earlier analysis also shows that the final product of a model strategy is to propose a generalizable model to guide librarians' selection practices, which is an example of theorizing action to encourage objectification. Therefore, I put the model strategy as a stage between habitualization and objectification.

Recognizing the institutionalization stage of those selection models can help us understand why these models appear, and how they can shape library selection practices. First, I argue that the emergence of all those models suggests their creators' efforts to be more rational actors in the selection decision-making process. As discussed in the earlier analysis, all those models are created to solve a specific problem in selection practices. The creators did not just follow the normative simple-criteria strategy; instead, they questioned the effectiveness of the widely-used strategy, and then developed more sophisticated ways to try to solve the problems. These actions demonstrate that the creators are engaged in trying to improve selection, to make selection more rationale. In other words, these creators feel the pressure to be seen as better stewards of public money allotted toward acquisition of library materials, and thus, they develop those more sophisticated selection models to demonstrate the rationality of their selection decisions. This autonomous decision-making process is different from the minimum efforts the

adopters of simple-criteria strategy take to accept and follow the normative structure in selection practices.

Second, I argue that those models, despite their limited diffusion in the library community, could still shape librarians' selection practices through theorizing process. The institutional theory suggests that a group of individuals working as "champions" play critical role for a structure moving from habitualization to objectification. I argue the creators of the models act as champions. Specifically, those creators developed the models, not only to solve their local issues, but also to inform the generic problem of how to make an effective selection decision, and then present their models as a solution to this generic problem. Thus, this theorizing process enhances the models' "general cognitive and normative legitimacy" (Tolbert & Zucker, 1996, p. 183). Further, many of the creators also test their models in their local settings, which could provide certain evidence of effectiveness, even though it is weak, to other libraries.

Chapter 5: Decision-making processes

5.1 Chapter Overview

In this chapter, I focus on the research question related to decision-making processes. Specifically, I first examine my participants' perceptions of the context in which they made their purchasing decisions. By introducing Nutt's five-stage framework with some minor revisions, I analyze the different steps described by my participants in their decision-making processes. I then put my data into five different models to investigate the variations and similarities across the described decision processes. I then move to the question regarding what counts as a rational decision. I approach this question using the following two steps: I first examine how my participants justified their decisions in their reflections on their decision processes; then, I explore the mixture of institutional and rational actions found in the described decision-making processes. I conclude by discussing the driving factors that drove participants' adoption of these different actions.

5.2 Perceived context for decision-making

Studying the perceived context in which my participants made decisions would help the readers to better understand why they made such decisions. Many participants reported that the context was full of uncertainty as well as a lack of alternatives. In the following section, I focus on three main characteristics of their perceptions of the context: uncertainty of acquisition method, uncertainty of users' behaviors and preferences, and limited number of available alternative products. For each type of perception, I describe the presentations of this perception and the potential causes for explaining this perception.

5.2.1 Uncertainty of acquisition method

(1) Description of perceived uncertainty

Many of my participants claimed that they were uncertain about the possible options for acquiring e-books. As described in Chapter 1, libraries have multiple ways to acquire e-books, including but not limited to different types of providers, business models (subscription vs ownership), packaging options (bundled or title-level selection), and DRM restrictions. My participants contended that they lacked a clear picture of all the specifications associated with certain e-book products. For instance, a librarian, when talking about the possible e-book products as selection candidates, stated that “you just don’t know what’s going to be possible.” Likewise, another interviewee described the process for identifying desired e-book products as “a little bit of grey. I’m not sure as far as that process went”.

(2) Causes of uncertainty

Some interviewees further explained the factors that cause their uncertainty of how to acquire e-books, which can be put into two categories: variations in business models and licensing terms and unpredictable pricing strategy. I examine these two affecting factors in the following paragraphs.

Reason #1: Complex business model and licensing terms

Several interviewees mentioned that an e-book product contains multiple variables in terms of business models and licensing terms, especially the DRM specifications, and each of these variables often has multiple options; therefore, the combination of multiple variables with multiple values results in a large number of possibilities. A librarian explained this complexity in the following way:

“I think there are [...] a lot will still unfold overtime about e-books. You know there are a lot of variations of platforms in terms of how they are used, and what capabilities they offer for saving or printing or downloading or searching or something. I'm not sure any end how that would unfold and also the extent to which different kinds of content can be combined on one platform, and lead us to something that has pros and cons.⁸”

Due to the complexity embedded in an e-book product, some librarians claimed that it is challenging for them to understand all these variations. Even if librarians have spent time trying to understand them all in different e-book products, it still remains difficult for them to compare those variations to make selection decisions. One participant stated that “I think the most onerous part is just trying to understand: these models can be very complicated. [...] and just try to make sense of all that in a way that the options against each other, that in itself is time-consuming”.

Consequently, the difficulties in understanding and then comparing all those variations in e-book products cause librarians' feelings of uncertainty about all of the possible options when making selection decisions.

Reason #2: Non-transparent pricing of e-book products

Some participants pointed out that the non-transparent and unpredictable pricing strategy of most e-book products cause their uncertainty about the possible options for acquiring e-books. Non-transparent pricing means the providers, in many cases, do not explain how they price a certain e-book product. Without sufficient price information, librarians cannot determine whether

⁸ Several of the quotations have grammar or wording issues, but I use the quotations exactly as they came to me, regardless of grammar or wording.

a price is reasonable for a certain e-book product. One interviewee described his concern about providers' pricing transparency as follows:

“It seems really arbitrary a lot of times, and I can't figure out why they would make such decisions before all these prices, as you know that are based on negotiations between the publishers and aggregators. So, who knows what happens in those negotiations.”

Another example of non-transparent pricing is that providers often keep the prices of individual titles confident, while only providing the price of an e-book product as a whole. Several interviewees complained about this limited pricing information, because it makes it hard to determine the appropriate way for acquiring certain e-book titles when these titles are available through both bundled products and individual purchases. For instance, a librarian complained about the strategy STAT!Ref⁹ uses for pricing e-book collections by claiming that “because they [STAT!Ref] are licensing content on behalf of other publishers, and they said: ‘well, the publishers don't like us tell you how much it is’. So then they wouldn't tell us how much each book is. How can you do selection when you don't know [the price]?”

Participants also expressed frustration about the ambiguous or weak connection between the price of print books and the price of correspondent e-books, as an interviewee contended that “sometimes there is a formula [between the price of print books and the price of e-books], and sometimes there isn't.”

5.2.2 Uncertainty of e-book users' behavior

(1) Description of perceived uncertainty

Many participants, especially the Humanities librarians, expressed uncertainty about users' behavior or preference when using e-books, which then adds another layer of uncertainty in their selection decision-making process. The most common example mentioned by my

interviewees is that they did not know whether the e-books they paid for would be used by library patrons. A participant described her uncertainty in the following way:

“I always feel nervous, especially if it was a big thing we are purchasing. My biggest fear is it doesn't get used. That's always what I'm nervous about. And I'm always hoping that people ask for this, I really hope they really use it.”

Similarly, another interviewee called the selection process as “nerve-racking” because she did not know whether the e-book products her library paid for would be used by the patrons. Moreover, several librarians claimed that they felt “guilty” or “frustrated” when the acquired e-books only had a low usage.

In addition to the uncertainty of whether certain e-books would be used, some participants talked about their uncertainty about how users would use e-books or what their preferences are when using e-books. For instance, an interviewee discussed her uncertainty of users' preferences over different types of platforms: “Will users want sort of publisher platform that have all the content of one thing, or will they still want format platform that have all the e-books regardless the publisher? That's the question for me I guess, what are the users' expectations in terms of types of content?” Another interviewee also articulated uncertainty about whether users of humanities e-books would read an e-book from cover to cover, and she felt “there is no conclusion on what people want.”

(2) Causes of uncertainty

Some interviewees further explained the reasons that their uncertainty stemmed from a limited understanding of users in a changing environment. How library patrons use e-books might be different from how they use print books previously, as an interviewee claimed that “I

think the frustration [of uncertainty] is just the reflection of changing time, in that trying to get a handle on what the users want.”

Several interviewees further argued that the lack of sufficient user studies limits their understanding of users’ behavior. For instance, a librarian questioned the validity of her library’s user studies, observing that many factors could reduce the study’s validity, like the time and frequency of study and the sample size and sample frame of the study; therefore, this librarian claimed that libraries should have a “more systematic way to get feedback from a wide variety of users” to build a better understanding of library patrons.

In addition to the lack of sufficient studies, one librarian explained that her age makes it more difficult to form a thorough understanding of how users use e-books. She contended that “I’m old, I’m very different from someone might be 30. And I’m not a digital native.[...] I don’t know the nature of the students.”

5.2.3 Perceived e-book marketplace: not many choices

(1) Description of perceived limited alternatives

In general, most of my participants, especially the ones in medicine, felt they had very limited candidate products to make their e-book purchasing decisions. One interviewee complained that she had “...fewer and fewer choices. Much fewer choices.” Similarly, another interviewee claimed that she was “not aware of any other competing large e-book collections besides the ones from McGraw-Hill and Elsevier in the health sciences.” Some other interviewees also pointed out that the current library e-book market, again mainly in medicine, lacked competition, or as one participant described, had “no competition really.” The descriptions of limited alternatives echo my findings in the five decision-making models, where most of those models (all cases in archetype model, part of the cases in appraisal model and off-

the-shelf model) were used to make decisions on whether or not to purchase one specific product while ignoring alternative products.

(2) Causes of limited alternatives

My participants further explained the factors that might contribute to the noncompetitive library e-book market, including consolidation among e-book providers, exclusive availability of core content, and shifts in the components of e-book products. I explain these factors below:

Reason #1: Consolidation among e-book providers

Many interviewees, in both subject areas, articulated that the merger/acquisitions among e-book providers was the main cause of lack of competition. They talked about the merger between ProQuest and EBL in the humanities field and Elsevier's acquisition of many small publishers in the health science field as well as the merger between Springer and Nature. Along with those consolidations, the e-book providers expanded their territories in the library e-book market, making it more difficult for other providers, especially smaller providers, to survive.

Reason #2: Exclusive availability of core content

Several interviewees from medical libraries pointed out that some of the core e-book titles were only available from one provider. Further, end users were often not flexible in accepting alternatives. For instance, one interviewee explained patrons' reliance on core titles: "These big-name book titles are not interchangeable in our users' mind. They don't care that there's another internal medicine e-book that is cheaper. They want the one they know." This interviewee also pointed out that many of these core titles were in "exclusive deals," which means they were only available in one providers' product. Another interviewee compared e-book products with e-journal packages, claiming that more overlapping content can be found across major e-journal packages, which made it easier to compare different packages; while in the e-

book market, overlapping titles, especially those core titles, can rarely be found in products from different providers. This then made it difficult to compare these e-book products in terms of content. Further, a different interviewee gave a more specific description of the exclusive availability of these core titles and how they could limit librarians' selection options:

“More and more publishers are not licensing a lot of their books, at least in health sciences, through other packages. So there are some Elsevier book in ebrary, but not a lot. McGraw-Hill doesn't license their books to anybody else, you have to get their e-books from McGraw-Hill. So really, for most books, you don't have several options of where you're going to get it.”

Reason #3: Coverage of e-book products

Two interviewees from medicine also discussed how the shift in the coverage of e-book products affected their ability to locate alternative products during the decision process.

According to these two interviewees, the shift of coverage had two aspects: first, many products tended to include more e-book titles, possibly as a result of market consolidation; second, providers started to combine e-books with other types of electronic resources in their products. Consequently, both changes led to much “larger” and also “more expensive” products. More importantly, those large products were often the only way for librarians to acquire some core titles, and thus they had to purchase those large, expensive products to provide access to those core titles. However, purchasing these large, expensive products reduced their ability to buy other resources. As one librarians complained, she could hardly “really seriously considered other resources that we become aware of” after they paid for the expensive ones.

In the next section, I explore how my participants made their e-book product purchasing decisions in an environment that is full of uncertainty and lacking in competition.

5.3 Decision-making process

In this section, I examined the decision-making processes used by my participants to purchase e-book products. I first introduce the concept of the five-stage decision processes developed by Nutt to my study as the framework for systematically analyzing the described decision-making processes. I further distinguished five decision models based on the stages that were activated in my participants' decision processes. Then, for each of the models, I described the similarities and variations within the model and discussed how my findings were different from Nutt's study.

5.3.1 Analysis Framework and Method

To better capture the activities involved in the decision-making processes, I used Nutt's (1984) five-stage framework, albeit with a minor revision, to analyze the decision processes described by my participants. Nutt developed this framework, which is also widely cited by studies in organizational behaviors, to compare the differences and similarities among decision processes. This framework includes five generalized key decision steps—formulation, concept development, detailing, evaluation, and implementation. Specifically, problem formulation (stage 1) encompasses the activities used to identify and understand the problem and then set objectives; concept development (stage 2) is to identify the alternative solutions to meet the objectives; detailing (stage 3) involves refining the viable alternatives by obtaining more detailed information about them; evaluation (stage 4) is to compare those alternatives; and implementation (stage 5) refers to the activities used to carry out the decision. Nutt then used this framework to analyze the decision processes in 78 service organizations, where he identified five

decision models, including the historical model, the off-the-shelf model, the appraisal model, the search model, and the nova model.

Nutt's framework provides an effective tool for me to use to systematically classify and examine the decision-making processes described by my participants; I further interpreted and refined the stages included in Nutt's framework to make it fit into my study:

- 1) problem formulation: activities that trigger a decision process;
- 2) conceptualization or concept development: activities used to define the abstract ideas, like goals or criteria, for further steps in decision-making;
- 3) detailing: activities used to collect detailed information about alternative products;
- 4) evaluation: activities used to either evaluate one product against the pre-established criteria or compare multiple products based on the criteria;
- 5) implementation: Since this study focuses on how librarians select certain e-book products but does not examine how they would implement the decided products in their institutions, I decided to remove the implementation stage from my analysis framework.

Therefore, I used a four-stage framework, derived from Nutt's work, to analyze the described decision-making processes. By reviewing my interviewees' narrations about their decision processes, I first identified 54 decision-making processes described by my 20 participants; I further identified five decision process models, mainly based on the stages activated in their described decision-making processes. Generally, I used Nutt's vocabularies to name my models if they included the same stages as Nutt's models. Thus, my decision process models revealed here include:

1) Archetype model: the same as Nutt's historical model, where problem formulation and detailing stages are activated. I use a different name from Nutt's study because of the differences between my study and Nutt's, which I discuss in the following section.

2) Off-the-shelf model: including stages of problem formulation, detailing, and evaluation.

3) Appraisal model: including stages of problem formulation, and evaluation.

4) Nova model: including all four stages as problem formulation, conceptualization, detailing, and evaluation.

5) Pet-idea model: including stages of problem formulation, and conceptualization.

In the following session, I provide specific descriptions of each decision process model.

5.3.2 Five types of decision process

In this section, for each of the five decision process models identified above, I describe the similarities and variations within one model and then examine the differences between my models and Nutt's models correspondingly. Table 5.1 summarizes the findings.

Table 5.1 Summary of the five decision process models revealed in this study

Model	Stages activated	Percentage	Description	Variations within the model
Archetype model	1, 3	11.1%	<ul style="list-style-type: none"> The decision-maker made the decision largely based on the event that triggered the decision process, rather than the further evaluation of a particular product. Detailing focused on collecting information to guarantee the implementation, rather than to assist decision-making. 	<u>Problem formulation:</u> <ul style="list-style-type: none"> Who raised the problem: often powerful person Prior experience with the product: least effort
Off-the-shelf model	1, 3, 4	20.4%	<ul style="list-style-type: none"> The decision-makers were not inclined to purchase the product at the beginning, and thus they reach out to obtain 	<u>Scope of detailing stage:</u> <ul style="list-style-type: none"> Detailing for one product: unfamiliar with the product

			more detailed info about the product or its alternatives. • Decisions were made based on the result of evaluation.	• Detailing for alternative products: negative experience with the product that triggered decision
Appraisal model	1, 4	55.6%	• Decisions were made based on expedient assessment of a few key aspects of the product or its alternatives.	<u>Number of products examined:</u> • One product: retention decision regarding particular product or decision to purchase a new product focusing on certain features • Multiple products: canceling project, comparison of two similar products
Nova model	1, 2, 3, 4	11.1%	• Decision-makers encountered new problems, and then defined the goals or criteria. Then they obtained detailed info about the product or its alternatives and compared the products against the goal/criteria or compared the candidates against each other.	<u>Providers' involvement</u> • Involved in detailing: respond to decision-makers' RFP. • Involved in conceptualization: collaborate with decision-makers to design a new product for the decision-makers.
Pet-idea model	1, 2	3.7%	• Decision-makers developed or revised institutions' policy or criteria in the conceptualization stage to incorporate the desired products.	<u>Purpose of conceptualization:</u> • Providing rationales to convince other members in the institution • Resolving a conflict between the existing criteria and the desired pet-idea product.

5.3.2.1 Archetype model (1,3)

In the archetype model, the decision process mainly involves two activities: problem formulation and detailing. The decision-maker often made the decision largely based on the event that triggers the decision process rather than on the further evaluation of a particular product. In this process, the detailing activities, which focused on collecting information about certain products, were more likely used to guarantee the implementation of the decision in the organization than to provide information needed to assist in decision-making. This type of decision process is not very common (11.1%) across all cases in my study.

Variations in Problem Formulation/Trigger Event: The key step in this process is the problem formulation or the trigger event. I discuss two aspects below - who raised the problem and prior experience with the product/least effort.

Who raised the problem: My data include examples where the trigger event comes from a more powerful person in the organization; in these cases, the decision-makers often have a strong tendency to purchase the desired product to fulfill the needs of that person. For example, in one of my cases, the librarian received a request of AccessSurgery from a faculty member in “a high position in surgical education.” The librarian searched for detailed information about AccessSurgery and then visited the faculty’s office to demonstrate how this product worked. When this senior faculty member further confirmed that this product was what he wanted to have, then the librarian decided to subscribe to AccessSurgery.

Prior Experience with the Product/Least Effort: Another important aspect of the problem formulation is the degree of familiarity with the product. When the problem is related to a certain product that decision-makers are familiar with, then the decision-makers often purchase that product as an effortless way to solve the problem. For instance, one librarian mentioned that the PDA program from EBL did not include certain publishers’ titles for licensing to the consortium in which his library is a member; therefore, the patrons from his own university cannot get access to those e-book titles that are important to them. The librarian therefore built a local PDA with EBL to provide access to those e-book titles that were not available to consortial license because he had already learned how the PDA from EBL would work from his previous experience with the consortial arrangement, and working with the same program from the same provider seemed to be a straightforward way to solve the problem caused by the consortial license. Similarly, in another case, the librarian mentioned that the major reason for him to

choose the PDA program from ebrary was because he had a positive experience with this product in his previous job at a different library.

In some other cases, the decision process was triggered by product upgrade: when Elsevier upgraded its MD Consult to ClinicalKey, librarians had to determine whether or not to upgrade to the new product with more titles included but also a much higher subscription fee. Participants from medical libraries took different strategies to solve the problem. Two of them, both from small medical libraries decided to upgrade to the new product, which would allow them to keep providing access to the titles included in the previous product. None of them mentioned any other measures they used to explore alternative way to provide access to those titles included in MD Consult.

In the cases that fall into the archetype model process, the steps of conceptualization and evaluation were skipped by the librarians. Librarians did not go out and evaluate alternatives. As revealed by the cases discussed above, the problems raised in the decision process were often concrete rather than vague: the question either had been narrowed to a product/provider or the question never grew to include other alternatives. For instance, the problem was often whether to purchase product X rather than which products the institution should select. Therefore, the decision-maker did not have to identify abstract ideas from the problem, and thus no conceptualization stage is needed because no comparison was done. Moreover, the evaluation stage was skipped because 1) decision-makers had already learned about the product based on their previous experience with it, and there was no need for them to evaluate the product again; and 2) filling the request of an important person in the institution outweighed the actual quality of the product. This does not imply that the quality of the requested product was poor; rather, a request from a key person in the organization could work as an indicator of the high quality of

the requested product, and thus it reduced the decision-makers' effort to formally evaluate this product.

Differences from Nutt: In Nutt's discussion of archetype model, he argues that the solution is often based on the experience of other institutions, which demonstrates the workability and feasibility of the solution. In my study, the decisions made through the archetype model process were based on the decision-makers' own experience with a certain product or provider rather than directly borrowing from other institutions' experience. The fact that my participants did not mention borrowing from other institutions' experiences in their decision-making process suggests that librarians' personal experiences with products or vendors is very important and in some circumstances is the most important factor in decision-making.

Another variation from Nutt is that my study reveals that the type of person who initials the problem could be another important factor that encourages decision-makers to adopt this archetype model. In Nutt's examination of this model, however, he does not discuss this aspect of the problem formulation stage.

5.3.2.2 Off-the-shelf (1, 3, 4)

The off-the-shelf decision model activates three stages: problem formulation, detailing, and evaluation. In the cases in my study, the process often started either with products that the decision-makers were unfamiliar with or with decision-makers' uncertainty about alternative products; the decision-makers were not inclined to purchase the product at the beginning of the process, and thus they reached out to obtain more detailed information about the particular product or to search for alternative products. The decision to acquire the product was made based on the result of evaluation, comparing information obtained about the potential product against a

set of established criteria. The off-the-shelf process was not uncommon in my study, occurring in 20.4% of all my cases.

Variations in the scope of detailing stage: In the detailing stage of these off-the-shelf decision processes, the information collected by my participants varied. In some cases, decision-makers collected information about one product; in other cases, decision-makers collected information about multiple products. I describe the two types of detailing activities below.

Detailing for one particular product: This decision often started with decision-makers becoming aware of a new product with which they were not familiar. For example, decision-makers learned of a new product by attending a vendor's showcase session, reading an article, being approached by a vendor, or through a patron's request. In the cases in my study, decision-makers did not begin with an inclination to purchase this product, and thus, they began an evaluation that then required them to obtain more detailed and comprehensive information about this product. The most common ways for decision-makers in my study described collecting such information included back-and-forth communication with providers, setting up a free trial session, and reading reviews about this product through formal or informal channels. In the evaluation stage, decision-makers then often used general selection criteria to assess this product based on the information obtained in the detailing stage.

Detailing for alternative products: In this sub-type of the off-the-shelf model, decision-makers were often familiar with the product that initiated the decision process; however, decision-makers had difficulties making decisions because the product had both some unsatisfactory attributes and substantial benefits. In order to determine whether or not to purchase this mixed product, decision-makers sought other alternatives to solve the problem. Therefore, the detailing activities in this sub-type extended to a greater number of alternative

products. In three similar cases, the librarians had to decide whether or not to upgrade from MD Consult to ClinicalKey with more content available but at a higher price. Unlike some other librarians that used the archetype model to decide to upgrade, the decision-makers in these three cases searched for other ways to get access to the core content included in ClinicalKey. For instance, they considered purchasing those e-book titles individually, or even in print, and their detailing activities focused on identifying the core titles in ClinicalKey based on the usage in MD Consult or users' requests and then assessing the availability and cost of those core titles for individual purchase or in print. In each of these three cases, the search for alternatives failed, and all decided to upgrade to ClinicalKey, demonstrating a distinct decision-making model among the decision-makers.

Another interesting example of detailing came from a consortium looking for potential e-book products for its members. This search was not tied to any particular products since the decision-maker was uncertain about what potential products were available. The consortium used the specifications of a different e-book product that they liked as a benchmark and a communication tool with the potential providers to obtain detailed information of their products that met its benchmark.

In the cases in my study, detailing is the key stage in this off-the-shelf process. Decision-makers search for detailed information about either a particular product or alternative products in order to reduce the uncertainty in decision-making. The off-the-shelf decision model skipped the conceptualization stage, which means decision-makers did not develop abstract ideas for identifying/evaluating potential products to make decisions. My cases identified two reasons for skipping the conceptualization activities:

1) the decision process is triggered by a specific product or by decision-makers' awareness of a new product, limiting the goal of the decision to whether to purchase this product. In this case, decision-makers just needed to search for detailed information about an unfamiliar product, without thinking about how to evaluate it before the detailing stage; and

2) the criteria used to identify and evaluate potential products have been already established, as in the consortium case discussed above, and there is no need to activate the conceptualization stage to develop those abstract ideas again.

Differences from Nutt: Both my study and Nutt's research identify variations in the scope of detailing activities among the off-the-shelf cases (one-product detailing or "truncated search" in Nutt, and alternative products detailing or "extended search"); however, my analysis differs from Nutt's in terms of the factors affecting the variations. Particularly, Nutt claimed that the major factor for distinguishing between types of detailing is decision-makers' familiarity with the potential products. More "insecure" decision-makers tend to use an extended search, where they "accumulate several competing packages and study them at length before making a choice" while more secure decision-makers tended to use a truncated search, or "satisfying approach," "when a package was identified that met his or her expectations" (p. 434). My study reveals two additional factors affecting decision-makers' search scope:

1) The type of problem formulation: If the decision was triggered by a specific product, then the decision-makers in my cases tended to conduct a truncated search, focusing on the product itself rather than on searching for alternatives.

2) Decision-makers' satisfaction with the product raised in the problem formulation stage: the unsatisfied decision-makers were more likely to use an extended search to identify alternative products.

5.3.2.3 Appraisal (1, 4)

The appraisal model process activates two stages: problem formulation and evaluation. In this model, product evaluation is based on a limited set of pre-established criteria. In other words, evaluation in this appraisal model is not a comprehensive review of the targeted products but rather an expedient assessment of a few key aspects of the products. In the appraisal model, only limited detailing activities were used to collect information needed for carrying out the evaluation. It is rare in this appraisal model that decision-makers would consider more than one alternative product; based on my data collection, the majority of processes in this model only involve one product. The appraisal model was the most common decision process found in my study, and 55.6% of my cases fall into this model.

Variations in the number of products examined in decision process: The number of alternative products (one vs. multiple) examined in this appraisal decision process is determined by the problem formulation.

When the question is narrowed to one product: My study reveals that, in the appraisal model, when the question raised was related to only one product, then the evaluation only focused on that product. According to my data, retention decisions were common. When the license of a certain product was about to expire, librarians had to decide whether to continue subscribing to this product. Based on my interviewees' descriptions, they often would not conduct another evaluation of the product when deciding to retain. Rather, when coming to the retention decision, most of my interviewees claimed that they mainly relied on two criteria to make the decision: price and actual usage. With those two established criteria, the evaluation process became relatively straightforward. The decision-makers evaluated whether the price of

the product in the incoming subscription period was acceptable or not based on libraries' budgets and on how often the product had been used recently.

In addition to the retention decision, my study also reveals two other examples of the appraisal model which involve only one product from the problem formulation to the final evaluation: decisions triggered by faculty request and those triggered by awareness of a new product. In these two cases, the decision-makers focused their evaluation on certain aspects of the identified product, which were the key to solving the problem. For instance, one of my interviewees mentioned that when a faculty member requested the Nineteenth Century Collections Online for his digital humanities project, this librarian checked the product's permission conditions for large-scale download and data processing, which are the key aspects for conducting digital humanities projects. In another case, my interviewee articulated that she regularly checked the peer institutions' e-book collection to make sure her library would not fall behind its peers. Once she noticed a product that her library did not have, the major step she took for making the decision to purchase was to evaluate this product based on the e-book guideline in her library, which includes two principles: no or less DRM restriction and allowing for multiple concurrent users.

When the question involves more than one product: Occasionally, my cases in the appraisal model involved two or more products in the decision-making process. The majority of those cases were related to choosing between two products that had overlapping content. The evaluation mentioned by my interviewees was narrow and straightforward: comparing one product to another or comparing both products against library general principles. For example, in comparing one product to another, librarians would consider patrons' familiarity with both products. Or librarians might compare products to libraries' general principles, like DRM free or

unlimited concurrent users. Another example was a retention decision, where my interviewee faced the situation that her library had to cancel some e-book subscriptions due to budget cuts. What she did was pull out usage statistics for all e-book products and then chose not to retain the one with the least usage.

Evaluation is the key step in this appraisal model: decision-makers either compared the alternative products if more than one product was identified in the process, or they assessed the alternative product against certain established criteria if only one alternative product was involved in the decision process. The conceptualization step is skipped because the problems that formulate the decision process are often tied to particular products. The detailing step is also skipped based on my participants' narration, because (1) decision-makers know the products; (2) little new information is needed; or (3) decision-makers are already inclined to purchase the product, as I described below:

1) The decision-makers are already familiar with the products or providers, so they do not need to figure out the specifications of those products. For example, in the case of choosing the PDA products between JSTOR and EBL, DRM restriction is the only aspect my interviewee evaluated to make the decision, because she had already learned about both products based on her previous experiences, and she knew that the key difference between those two products was the DRM restriction;

2) The decision-makers are familiar with the products, and little new information about a product is needed to make the decision, and thus the decision-makers do not need to learn the other aspects of the product to make their decision. For instance, in the case of retention decisions, the major things decision-makers focused on were the price and actual usage of the products;

3) The decision-makers have a strong motivation to purchase a product, even if they are not familiar with it, and the only evaluation they have to conduct is to guarantee that the product meets some minimum requirements for implementation. In one example, when one librarian tried to purchase products that her peer institution had purchased, the only evaluation mentioned in her narration is to make sure the product meets the two principles for purchasing in her library, while without any discussion on the assessment of other aspects of the product.

Differences from Nutt: The major difference lies in the prevalence of this appraisal model between my cases and Nutt's. In Nutt's study, the appraisal model is relatively rare, while in my study, it is the most common model. The main reason for this is that my study participants described many retention decision processes, and all retention decisions mentioned by my participants fall into the category of appraisal model.

Another variation from Nutt's discussion is that Nutt observed two types of appraisal models: covert appraisal, which he describes as aiming to "devise politically defensible arguments to support the idea" (Nutt, 1984, p. 436), and overt appraisal, which he describes as "remov[ing] real uncertainty about the plan's value." In my study, all appraisal cases tend to be "overt," where the goal of the appraisal decision was to remove the uncertainty about a product's worth for keeping, the uncertainty about the differences between two products, or the uncertainty about the implementation of a certain product in the local institution. I did not find any examples of covert appraisal where the goal was to develop arguments to support an idea, but this could be a limitation of my methodology.

Moreover, my investigation of the appraisal cases reveals that the evaluation in this model is more likely to be an expedient evaluation, which only focuses on limited aspects of a product rather than a comprehensive evaluation that covers every aspect of the product.

5.3.2.4 Nova (1,2,3,4)

The nova decision model activates all four stages in the process: problem formulation, conceptualization, detailing, and evaluation. In the problem formulation phase, the decision-makers experienced a new problem. In the conceptualization stage, decision-makers defined the goals or criteria for further steps in decision-making. Next, in the detailing stage, decision-makers obtained detailed information about the candidate products based on the goals/criteria established in the conceptualization stage. Then, in the evaluation stage, the decision-makers compared the potential product against the goals/criteria if there was only one candidate or compared the candidates against each other if multiple products were taken into consideration.

The nova model is the one of the two models that involve conceptualization. I suggest that this stems from the newness of the problems some of my participants experienced. Although my study only found a few nova cases (11.1%), all those cases come from my consortial interviewees, and e-book consortial purchasing was relatively new to my interviewees at that time.

Here, “new” has two layers of meanings: first, consortial purchasing was new to the decision-makers and their institutions at that time when they had made purchasing decisions, which means that the decision-makers did not have past experience with consortial purchasing, and the consortia they worked for also had not purchased e-books at the consortial level; second, consortial purchasing of e-books (not e-journals) was new in the academic library community in general, which suggests that those consortial decision-makers could not consult with or learn from other similar consortia about their experiences of e-book purchasing. Further, the second type of “new” also implies that decision-makers were uncertain about who could be potential

providers of e-books for consortia. Decision-makers did not have any familiarity with potential solutions.

My case that illustrates the nova model of decision-making displayed extensive conceptualization. The newness of the problems described above required activities mainly reflected in the conceptualization stage. During conceptualization, consortial decision-makers moved from a general goal— purchasing e-books for consortia-- to more concrete and feasible specifications, like identifying the minimum number of concurrent users across consortial members and the acceptable range of multipliers of price.

Variations in the role of providers: across all my nova process cases, I noticed e-book providers' degrees of participation in the decision-making process varied: many providers provided information about their e-book products in the detailing stage, while some other providers played a more proactive role in the decision process by participating in the conceptualization stage. I describe these two types of providers' participation below:

Providers involved in detailing stage of the nova model: it was common in my study that providers only participated in the detailing stage when decision-makers demonstrated interest in their e-book products as an option for consortial purchasing. In the detailing stage, providers often reacted to decision-makers' request for proposal (RFP). In response, providers sent decision-makers information about their existing standard products. In those cases, providers interacted with decision-makers during the information solicitation process, and thus, providers' impact on the decision process was largely predefined by their products.

Providers involved in conceptualization stage of the nova model: In two of my nova cases, I found that providers played a more proactive role in the decision process by actively collaborating with decision-makers in the conceptualization stage to create a new e-book product

for consortia. In both cases, decision-makers chose one provider as a partner right after the problem formulation stage to design and implement the consortial purchasing. The providers in both cases had long-established relationships with the decision-makers' institutions through either print or e-journal acquisition practices, but neither provider had a consortial e-book product at that time. In these cases, the providers were more like a partner or collaborator than a mere vendor. They worked closely with decision-makers during the conceptualization stage to identify the needs of consortial partners and then in the detailing stage to customize their products to meet those needs. Therefore, providers' activities in the conceptualization and subsequent detailing stages were like a designing process for a new product, where providers took more proactive steps to shape their consortial partners' decision processes. In both cases, the decision-makers were able to implement e-book purchasing across their consortia with desirable features, while the providers were able to secure revenue from the consortia. One of my interviewees described this relationship as a "win-win" situation for both his consortium and the provider.

Differences from Nutt: Nutt's study revealed two types of tactics used in the nova decision model to generate a solution to the initial problem: (1) problem-corrective tactic, which responds "to complaints and propose(s) a modification to overcome the identified malfunction" (p. 440) and (2) idea-driven tactic, which focuses on developing innovative ideas, rather than overcoming flaws that caused the problem. However, in my study, all nova cases used the idea-driven tactic and none of them used the problem-corrective tactic, because none of the decision processes were triggered by decision-makers' dissatisfaction about a current e-book product; instead, the decision process aimed to deal with a new situation- consortial purchasing of e-

books by developing an innovation solution – a new e-book product that would be sharable across consortial members.

Another difference is that the types of outside consultants varies between Nutt's and my studies. In Nutt's study, the outside consultants sell process (like auditing process) rather than product to the decision-makers, and thus, the outside consultants need to work relatively independently to develop the process for problem-solving. In my study, the outside consultants sell both process (designing process of a product) and product (the final product).

5.3.2.5 Pet-Idea Model (1, 2)

The pet idea decision model activates two stages: problem formulation and conceptualization. This model focuses on developing or revising institutions' policies or criteria in the conceptualization stage to incorporate the products the decision-makers have a strong inclination to purchase from the beginning. Specifically, in this pet-idea model, the problem formulation stage often starts with decision-makers' having a strong inclination to acquire a particular new product as a "pet-idea." More importantly, the product often exhibits features with the following attributes: 1) The features are new and very attractive to decision-makers, and 2) the institutions have no prior experience with those new features. In the consequent conceptualization stage, decision-makers try to justify their pet-ideas through developing or revising relevant policies or selection criteria, so that they can move the products from their pet-ideas to actually implementation. The pet-idea model was the least common model among all the five decision models, and I only observed two cases (3.7%) that used it.

Variations in the purpose of conceptualization: in both cases that employed this pet-idea model, decision-makers updated or revised their existing selection criteria in the conceptualization stage to justify their consequent acquisition of the pet-idea products; however,

the purpose of conceptualization between the two cases varied: one case focused on providing rationales to convince other members in the institution to purchase a pet-idea product, and the other case aimed at solving a conflict between the current selection criteria and the desired pet-idea product. I describe both cases below.

The first case focuses on providing rationales to other members in the institution. Specifically, the decision-maker learned of an EBA (evidence-based acquisition) product and was very interested in introducing this new acquisition model to his institution as a cost-effective method to increase the institution's e-book collections. However, the decision-maker himself was uncertain about the actual cost-effectiveness of this EBA product because the EBA model was relatively new in the field, and it was difficult to obtain feedback from other institutions about its cost-effectiveness. Still, the decision-maker had to convince other selectors to acquire this EBA product. Consequently, the decision-maker framed the idea of acquiring the pet-idea product as "trying things out." He represented the acquisition as part of a larger strategy of experimenting with different acquisition models to find new solutions. Then, based on the actual experience with the products at the end of the experimenting period, the institution would evaluate the products to determine whether or not to retain them. In the word of the decision-maker, this strategy was like "throwing the money against the wall to see what sticks." Under this strategy, the EBA product was a new acquisition model that had not been implemented before by this institution, and thus, it become reasonable for the decision-makers to introduce this EBA product to the institution as a pilot product to further test its cost-effectiveness in terms of e-book acquisition.

The second case focuses on resolving a conflict between the existing selection criteria and the desired pet-idea product. Similar to the first case, the decision-maker learned about the

PDA (patron-driven acquisition) program from other peer institutions and then was interested in acquiring a PDA product for her institution. But one major product feature conflicted with the institution's existing selection criteria - one of the prioritized selection criteria in this institution specified that this institution should always acquire DRM-free e-books when it was feasible. However, the e-books in this PDA product had DRM. To incorporate this product with DRM, the decision-maker consulted with other members in the institution, and they decided that patron-driven acquisition was very important to them; this new criterion of PDA might outweigh the no-DRM criteria in certain situations. Due to the updated selection criteria, the decision-maker was able to acquire this PDA product even with its DRM restrictions.

Both cases discussed above skipped the stages of detailing and evaluation, because of decision-makers' strong inclination to purchase the pet-idea products from the beginning. The decision skipped the detailing stage because as described earlier, the whole decision process focused on developing justifications for the desired products in order to acquire them; thus, decision-makers did not need to develop detailed specifications about the product as normally done in the detailing stage). In the first example, there was no evaluation because the acquisition was reframed as a change in policy to encourage experimentation. Evaluation was put off until the end of the experimental period. Similarly, the second example did not include a true evaluation phase because the participants revised the evaluation criteria as part of the process.

Difference from Nutt: Nutt's study does not cover this pet-idea model. However, Nutt notices a similar "pet idea" model as a variation in the historical model, or archetype model, in my study. Nutt's example differs from my pet-idea model in two ways. The first difference lies in the time when decision-makers develop their pet ideas. In Nutt's pet-idea model, decision-makers first developed a pet-idea and then "identified a problem that justified his or her idea and

initiated a project” (p. 433). In this type of decision process, the decision-makers’ pet idea was developed prior to the problem formulation, or in other words, the problem was formulated to promote the decision-makers’ pet-idea. Unlike Nutt’s pet-idea model, in my two pet-idea model cases, decision-makers demonstrated a strong inclination toward certain products as their “pet-idea” during, not prior to, the problem formulation stage; they learned about some new products and then became very interested in acquiring them for their institutions, which thus activated the decision process.

Another difference between Nutt’s pet-idea model and my pet-idea model exists in the method that the decision-maker used to justify the pet-idea. In Nutt’s pet-idea model, the justification was developed in the detailing stage, where the decision-maker “artfully steer[ed] the process to carry out detailing” by studying other’s practices (p. 433) so that the pet-idea seemed to be drawn from other’s experience rather than directly from the decision-maker, which then made the pet-idea legitimate. In my (12) model, decision-makers justify their pet-ideas in the conceptualization process by revising institutions’ policy or selection criteria to provide backbone support to acquire the desired products.

5.4 Justifications of the rationality in decision-making processes

In the previous section, I discussed how my participants made purchasing decisions of e-book products by distinguishing five different decision-making models they used. In this section, I continue to examine the rationalities implied in their decisions. To do that, I explore how my participants justified their decisions in their reflections on their decision processes. In the end, I discuss different levels of bounded rationality in the decision-making processes covered by this study.

As I discussed earlier in the introductory chapter of this dissertation, when librarians work as employees in public service institutions under financial pressure, they must demonstrate to others that they are trusted stewards of public money by making good e-book purchase decisions. In this section I examine the strategies librarians take to make their decision appear rational in an environment full of uncertainties. During my interviews, I did not directly ask my participants about the rationality of their decisions because this might have made them worry about whether or not their actual decisions were rational, and it might have led them to tweak their description of their decisions to make them closer to an ideal rational decision. But some participants, when describing their decision process, did talk about how they justified their decisions or why they made such decisions. The data is not systematic, but it is interesting. Participant-described justifications include: experimentation, incorporating users' input, written documents of e-book selection, learning from past experience, learning from other libraries, group decisions, and aggressive negotiation with vendors.

(1) Experimentation

Many interviewees used the “experiment” strategy to justify their decisions. In an experiment, libraries could use a product for a substantial period of time (often one year) without making a longer financial commitment. This allowed them to obtain usage and user experience data with a certain product but kept risks low because they had only committed to one year and could terminate the experiment after that year if the usage data or user experience was negative. It is important to distinguish the short-term acquisition experimentation from two other similar concepts: free-trial provided by e-book vendor and the product subscription as an acquisition model. I describe their differences below.

The experiment is different from the free-trial in terms of length and the reliability of the usage data generated. The free-trial period is often shorter, usually just several months. This short free-trial period does not produce reliable usage or user experience data. As discussed earlier in this chapter, usage data generated from free-trial period can only work as a “predictor” of actual usage, because many factors, like when the trial occurs in relation to the academic calendar, or whether or not the trial is promoted to potential users, could affect the reliability of the data collected in a short period. Because the experiment is in a longer period and users are more likely to be aware of the trial product, the usage data and user experience data are likely to be more valid and more predictive of usage expected from a long-term or permanent purchase than from a short-term trial.

The experiment is different from a traditional subscription in terms of the length of period, the default expectation of renewal, and the stableness of funding required. First, as explained earlier, the experiment often lasts for only one year while most subscriptions are longer. Second, the experiment often uses an “opt-in” strategy for license renewal after the experiment period, while most subscriptions use “opt-out” for license renewal. Opt-out requires libraries to provide a written notice of “not to renew” to avoid continued subscription (LIBLICENSE, 2014). In contrast, opt-in does not require libraries to do anything to terminate. The opt-in approach reduces the risk of accidentally retaining an unwanted product and reduces the work required to terminate usage. One interviewee in my study also explained that the short-term acquisition experimentation “is a question of whether or not we decide to do it again in a sequential year, but it is not technically a subscription, so there is no cancellation.” Third, the experiment can often rely on a short term or flexible budget because of the short-term nature of

the financial commitment, while subscription requires a more stable or permanent budget. I discuss how the stability of budgeting impacts the rationality of decisions later in this section.

The discussions above reveal two main attributes of the experiment strategy—its year-long period and the opt-in renewal-- and my participant further explained how these two attributes helped them justify their e-book decisions. First, the year-long period of experimentation generated solid evidence of usage throughout a year rather than a weak prediction of usage based on a shorter-term trial and thus would support their future purchase decisions on the same product. For instance, one participant contended that this year-long experimentation gave her a year of usage data on the purchased e-book product to decide whether or not it was “a good decision” because “there's nothing like use data that tell you what your patron really need, especially when it's a complex product.” Second, the opt-in renewal requirement allowed my participants to explore new products without making a long-term commitment, which made it easier to justify their purchase decisions, especially when they were uncertain about whether the products would work well in their institutions. For example, one participant working for a consortium explained that this easy-to-opt-in attribute in the strategy reduced the “time hammering out every detail in advance,” so that her consortium could “jump in without a great deal of forethought” in their purchase of e-book products. In another case, an interviewee claimed that this opt-in attribute gave him the freedom to experiment or to “re-arrange the desk and chairs, [and] to shuffle deck around to see what we want to use.”

In addition to the year-long period and opt-in attributes in the experiment strategy, many participants also discussed how the type of budgeting used in this strategy could help them justify their purchase decisions. These participants claimed that they often used flexible budgets, like gift or endowment money or the leftover funds from the previous year, to pay for the

experimental e-book products. Since those budgets did not come from regular or permanent funds, decision-makers felt more freedom to use those “extra” moneys to explore new products. For instance, one participant described his philosophy of using those funds to purchase products in experiments as “I have some one-time money” so he could experiment with different new e-book products and “kick the can down the road” on a longer-term license.

(2) Incorporating users’ input

One methodology participants used to appear more rationale in their decision-making was use of user data. As described earlier in this chapter, many participants expressed anxiety over the actual usage of e-books. Consequently, some interviewees talked about employing users’ inputs into the decision-making process in order to guarantee or at least improve the future usage of e-books. These strategies can be divided into two categories: general user survey and specific user study. Some participants used general user surveys to understand users’ preferences or behaviors when using e-books in general. They also used the survey data to develop or revise their selection criteria. For instance, an interviewee talked about how his library had placed more weights on DRM criterion and added privacy protection as a new selection criterion based on the user survey’s findings. Participants also described seeking users’ feedbacks on specific e-book products or asking participants to compare two specific e-book products. These were often associated with free trials provided by vendors. Participants claimed that the usage data or user feedback generated during the trial period could work as an “efficient predictor” of the actual usage, adding legitimacy to their decision-making.

(3) Written documents on e-book selection

Only a small portion of my participants’ institutions had developed written documents for e-book selection. Only in rare cases however, did some participants refer to the documents to

justify their decisions, although some of these documents were quite vague. For example, one participant mentioned that she always felt “confident” about the purchase decisions she made because she followed the selection criteria and their priorities as defined in the written document. Similarly, in another case, the participant explained that use of the written document could improve the decision. Another more interesting example is the second case found in the pet-idea model, where decision-makers revised selection criteria covered by the collection development policy to make the purchasing decision legitimate.

(4) Learning from past experience with products and vendors

Some interviewees used previous experiences with certain products or vendors to make their decisions appear rational. For example, several interviewees mentioned past experience with the same product in a different institution. The interviewees used their firsthand experience to justify purchasing the particular product at their new institution. This legitimacy strategy is found in the cases using archetype model. For instance, an interviewee had gone through the decision-making process in his previous job to purchase the PDA product from EBL. When he moved to the current institution, which had just started to build its e-book collection, the decision-maker justified his decision to purchase the EBL product again, based on his prior positive experience.

Second, participants also justified purchase decisions based on the reputation of or their past experience with vendors (apart from particular e-book products). For instance, in the two consortial cases using the nova model, where vendors involved in the conceptualization stage, the decision-makers first identified the vendors to collaborate with before they determined the preferred product specifications.

(5) Learning from other libraries

Several interviewees used other libraries' purchase decisions to justify their own decisions. These librarians often learned about other libraries' purchasing experiences through attending professional conferences, reading professional articles, or even talking directly to librarians in other institutions. My participants further claimed that as those decisions had been "tested" in other libraries, it would help them justify their "adoption" of the same or similar decisions in their own institutions.

Further, based on my participants' descriptions, those experience learned from other libraries can be either at the product level or at the selection criteria level. First, a few interviewees mentioned that they felt "comfortable" purchasing a certain e-book product because they had known that other libraries, especially those similar to their own institutions, had purchased the same product earlier without substantial complaints. For instance, one interviewee claimed that her purchase decision of a certain product was "supported" by "knowing that [product] actually being used in other places, like that people successfully implemented it."

Second, two other interviewees justified their decisions by using similar selection criteria developed earlier by other libraries. For instance, one interviewee from a consortium mentioned that she would often "scan the horizon to see what others do" and that she did not create the scorecard system used in her consortium for e-book purchasing decision from scratch. Rather, she first became aware of the idea of using a scorecard from the literature, and then she "modeled" it by adding several additional criteria based on the local situations in her consortium.

(6) Group decisions

Some librarians justified their purchasing decisions by claiming that their decisions were made by a group of people collectively rather than just by themselves. As the decision-makers in a group decision were often the head of different departments in a library, like the collection

development department, technical services, or the reference department, their expertise in those areas could enhance the rationality of their decisions. Several interviewees also justified their decisions based on the involvement of other people outside of the decision team, like subject liaisons or the campus IT department. Although these persons did not directly participate in the group decision-making process, they could provide valuable information that help the decision-makers make more rational decisions.

(7) Aggressive negotiation

Several interviewees justified their decisions by claiming the use of more aggressive strategies in the negotiation process with e-book providers. Those interviewees claimed that they did not passively accept what was offered by the providers; rather, they took efforts to negotiate with providers so they could pursue a more beneficial license term for the desired e-book products. For instance, one participant mentioned that she shared one provider's licensing terms with other potential providers to push them to work towards those terms by asking "XXX (the first provider) provided unlimited simultaneous users to me, but why can't you provide it, too?" Note that not all negotiations would result in better licensing terms; however, these attempts made by my participants demonstrated their efforts to obtain better licensing terms for library patrons. As one participant contended that "because part of my job is for advocating on behalf of our users," those efforts would then make their final decisions appear rational.

5.5 Decision-making process: Mixture of institutional and rational actions

The reader may recall that in my literature review chapter I introduced the work of Tolbert & Zucker, who argue that decision-making can be seen as a continuum with "rational

actor models” at one end and “institutional decision making” at the other end. Rational actor views of decision-making focus on calculating costs and benefits, while institutional views of decision-making focus on accepting and following social norms. In analyzing my data, I found both frameworks helpful. In section 5.5.1, I described aspects of the participant’s decision-making that are similar to the institutional model, and in 5.5.2, I describe aspects that are more similar to the rational actor model.

5.5.1 Institutional actions and the driving factors

Several aspects of the participants’ described decision-making processes fit well with the institutional model of decision-making. One important example I saw many times was decision-makers focusing on one particular product without seeking alternative products. In these decision-making processes, it had become taken-for-granted for these decision-makers to only examine one particular product that triggered their decisions, while ignoring or remaining unaware of the alternatives. Or as Zucker (1983) put, “alternatives may be literally unthinkable” (p. 5) for decision-makers in an institutional model. In this study, as revealed in 5.3, I found multiple cases across different decision-making models where librarians only examined one product to make the purchasing decisions.

As explained in section 2.5.3, DiMaggio and Powell talk about three mechanisms that make organizations more similar “without necessarily making them more efficient” (1983, p. 147) - coercive isomorphism, mimetic isomorphism, and normative isomorphism. Below I use these three mechanisms to explain librarians’ adoption of the “only-one-product-considered” decision-making processes as common practices.

(1) Coercive isomorphism

Coercive isomorphism works as “force,” “persuasion,” or “invitations” to push organizations to follow specific structures (DiMaggio & Powell, 1983, p. 150). DiMaggio and Powell also point out that coercive isomorphism results from “both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function” (p. 150). They further claim that the most common example of coercive isomorphism is the legal system, along with other examples, like the structures imposed by monopolistic firms and supporting organizations to subsidiary organizations.

I argue that the main source for coercive isomorphism in this study comes from the current library e-book market structure. As described in 5.2.3, many interviewees described the current library e-book market as non-competitive, and they felt they did not have many alternatives when making e-book purchasing decisions. Specifically, the consolidations among providers and exclusive availability of content, especially in medicine, have decreased the number of alternative e-book products that contain core titles. This has led to a centralized market. Moreover, flat or even declining library budgets have limited librarians’ abilities to explore multiple alternative products. Consequently, the centralized market has gradually persuaded librarians that they only have very limited, or even just one option, to get access to certain key content -- even though it might not be true in all circumstances. For instance, some interviewees from medicine claimed that the main reason for them to subscribe to ClinicalKey was because this product was the only way for them to provide access to some core titles published by Elsevier. Therefore, these librarians only looked at ClinicalKey without exploring other alternatives that were actually available to them as described by some other study participants. I discuss this more in 5.5.2.

(2) Mimetic isomorphism

Mimetic isomorphism results from organizations' imitation of other organizations. I argue the main sources for mimetic isomorphism of the "only-one-product-considered" decision-making processes come from librarians' uncertainty of what counts as a good e-book product. I argued earlier in 5.2 that many interviewees expressed their uncertainty about available alternative products as well as their uncertainty about library patrons' e-book use preferences and behaviors. As DiMaggio and Powell (1983) explain that "uncertainty is also a powerful force that encourages imitation" (p. 151), my librarians described how they started to check what e-book products other libraries, especially those similar to their own libraries, had purchased. Then these librarians followed their peers in purchasing the same product to reduce their uncertainties about purchasing decisions. Since the peers' purchase of the product implies that this product must meet certain selection criteria, such as qualified content with a reasonable price, in peer libraries the action of imitation reduces librarians' work to conduct a comprehensive examination of the product and reduces the need for them to further explore other alternative products.

(3) Normative isomorphism

Normative isomorphism is often associated with professionalization, where the members of a profession collectively "establish a cognitive base and legitimation for their occupational autonomy" (p. 152). In other words, normative isomorphism encourages the homogeneity among different organizations by pushing them to follow the best practices identified within a particular occupation. I argue that the main sources for normative isomorphism in this study come from selection librarians' professional communication. As revealed earlier, the majority of my interviewees only conducted expedited examination of the price and usage statistics of the product that was about to expire. A more rationalized decision-making process would require

that librarians to examine price, usage and other aspects of the product in addition to also investigating alternative products. Normative isomorphism can help explain why librarians accept the expedited examination instead of adopting the fuller examination suggested by a rational approach.

Professional communication is a major way to establish and further enhance shared beliefs about professional practices among individual members within a profession. Professional communications among selection librarians, mainly through conference presentations and professional articles, may help create and reinforce a norm of only relying on review of “price and usage statistics of the current product” when making retention decisions. Ongoing discussion of this strategy, with very limited critique, may have helped this strategy gradually receive legitimacy. Consequently, when it has become a norm to only examine the price and usage statistics of the expiring product, most librarians would just follow this common practice to make the retention decision without considering any alternative products.

5.5.2 Rational actions and the driving factors

I argue that some of the decision-making processes discussed by my interviewees are better described in terms of the “rational actor model” in which decision-makers made decisions by calculating and comparing the cost and benefits of each alternative. In this study, I found several examples of these activities, including:

1) Actively identifying alternative products: as revealed in 5.3, some cases under the nova model, off-the-shelf model, and appraisal model involved decision-makers searching for alternative products, even though the search might end with failure. For instance, I had three cases where librarians explored multiple ways to get access to the core titles covered in ClinicalKey. When describing their decision-making processes about whether to subscribe to

ClinicalKey, they examined different alternatives to getting core titles such as subscribing to the entire ClinicalKey product, title-by-title purchase, or acquiring those books in print format.

Although librarians in all these cases eventually decided to subscribe to the entire ClinicalKey product rather than relying on print or title by title, their efforts to search for alternatives still reflect the rationality of their decision-making processes.

2) Calculating the costs and benefits of certain products: Some decision-making processes described by my participants contain steps where decision-makers sought to obtain information to evaluate a product and/or its alternatives. For instance, librarians gathered user data, including both general surveys on users' e-book usage behaviors and collecting users' feedbacks on specific products, to evaluate the usability aspect of products. The second example is the group decisions strategy, where decision-makers invited experts from different departments within or even outside of library to determine how to calculate costs and benefits of the products. Another example is the experimentation strategy used by librarians when they had difficulties calculating the benefits and costs of a certain product. As discussed in 5.4, decision-makers relied on the limited year strategy to obtain usage and user experience data with limited commitment. They could then use this data to calculate the costs and benefits of this product when determining whether to make a long-term financial commitment to it.

3) Aggressive negotiation with providers: in the cases where librarians only had one alternative when making purchasing decisions, some of my participants reported making great efforts to obtain more beneficial license terms by negotiating with providers. Negotiation entails decision-makers exerting effort to maximize the benefits and/or minimize the costs associated with a certain product, and although they might have failed in the end, they still demonstrated the rationality aspects of decision-making processes.

While my participants described actions that demonstrated features similar to rational actor views of decision-making, I found these actions tended to be independent activities, and I did not see them widely used across my different case-site libraries. From an institutional theory perspective, this means that these activities were in the habitualization or pre-institutionalization stage as described earlier in 2.5.2. As Tolbert and Zucker claim that a structure in habitualization often has high failure, the narratives of my participants support this argument by showing some of the failed activities. For instance, my participants described instances in which some of the actions used to identify alternative products or to conduct a more aggressive negotiation with providers had failed.

The next step in my study is examining the conditions that led my participants to employ actions that fit with the rational decision-making process approach. I argue that the following two conditions were the main reasons: new situations and personal characteristics of the decision-makers. Specifically, the former was an external factor that forced librarians to take actions that fit with the rational decision model, such as adopting an experimental strategy or conducting users' studies to help them obtain more information needed to calculate the cost and benefits associated with alternative products. The latter was the internal factor, like the decision-makers' perception of their job responsibility and their perceptions of their relationship with providers, that enabled librarians to actively construct rational actions, such as negotiating with providers aggressively. Here I describe these three situations below.

(1) External factor- new situation encountered: when decision-makers faced a new situation, such as e-book consortial purchasing, where very limited or even no information was available about other institutions' experience, decision-makers could not imitate others' strategy or rely on norms developed through professionalism. They had to generate solutions by

themselves. For instance, when librarians acknowledge a new product that just entered the library market, they might use the experiment strategy or conduct a user study to obtain data for calculation of the costs and benefits associated with this product or they might rely on a group of experts to make the decision collectively.

(2) Internal factor- personal characteristics of decision-makers: in this study, whether a decision-maker would make decisions using actions associated with the rationalized decision approach might depend on two personal characteristics of the decision-maker: perception of job responsibility and perception of the relationship with providers. In some of my cases, decision-makers exhibited a strong sense of responsibility that they should maximize the benefits that a library and its patrons would receive when making purchasing decisions but in other cases, they exhibited a lesser sense of responsibility. With this strong motivation, decision-makers might be more willing to spend time negotiating with providers or searching for alternatives.

In addition to decision-makers' perceptions of job responsibility, their perceptions of their relationships with providers might also affect their likelihood to use actions associated with the rationalized decision approach. I observed that when decision-makers believed that their library had developed a mutual trust relationship with providers, they were more likely to take actions associated with rationalized approaches, like actively negotiating for more beneficial licensing terms.

It would be interesting to further explore the factors that affect these two types of personal perceptions. I found both perceptions were not necessarily associated with library size or disciplines, because I found cases from both small and large libraries in both humanities and medicine, where decision-makers claimed it was their job responsibility to maximize the benefits received by libraries and where they believed they maintained a long-term sustainable

relationship with providers. It is possible that librarians' education background and working experiences shape their perceptions of job responsibility and relationship with providers; however, more evidence is needed to support these hypotheses.

Chapter 6 Selection Criteria

6.1 Chapter Overview

In this chapter, I focus on the research question related to selection criteria discussed by my interviewees. I first provide an overview of all the described selection criteria. I then closely examine four criteria that were not fully explained in previous studies, including: content, perpetual access, copyright of embedded multimedia, and relationships with a provider. I then discuss the connections between my findings in selection criteria and the three ideas learned from the models in consumer literature.

6.2 Selection Criteria

6.2.1 Overview of selection criteria

In this section, I investigate what selection criteria my participants used in their selection of e-book products. As suggested in Mikkonen et al.'s model, examined in Chapter 4, I divided the selection criterion into two groups: criteria used for making purchase decisions for a new product, and criteria used for making retention decisions. Figure 6-1 provides an overview of the selection criteria described by my participants in interviews.

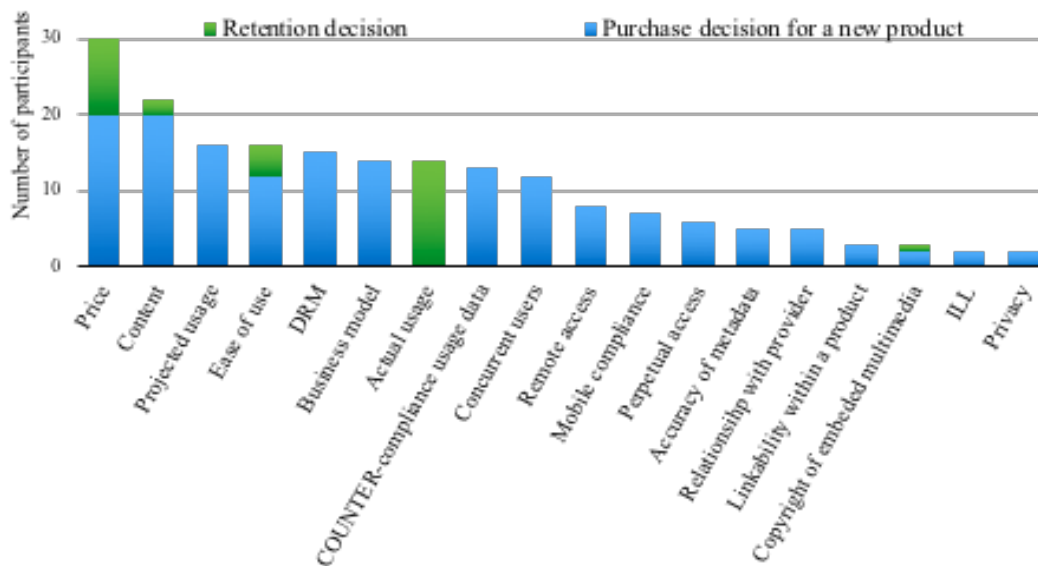


Figure 6-1: Selection Criteria described by my interviewees

As shown in Figure 6-1, all my 20 interviewees put price and content as selection criteria for making decisions about a new product. Along with these two widely accepted criteria, my interviewees also listed many other criteria to consider in making purchasing decisions of new products, and most of these criteria are well-discussed in the literature. When making retention decisions, the the top two criteria discussed my interviewees included actual usages of the current products and the price. Several other criteria, including ease of use, content, and copyright of embedded multimedia, were mentioned by a few interviewees.

Note that a criterion mentioned by more interviewees does not mean this criterion is more important than other less-mentioned criteria. The major goal of Figure 6.1 is trying to provide a comprehensive list of selection criteria rather than a ranking of importance. I did not report an overall importance or chronological order of each criterion here due to the following two reasons: first, not all my interviewees ranked the importance or described the chronological order

of their selection criteria during the interviews; second, I found both importance or chronological order were closely tied to the local situations of each libraries, and thus, the described importance or chronological order of those selection criteria varied widely across my participants. However, in the following section, where I examine four criteria closely, I discuss the variations or similarities in the described importance of these criteria.

When comparing types of libraries, I did not find any differences in the described selection criteria between different size of libraries, nor did I find differences in criteria between individual libraries and library consortium. But I did notice two selection criteria were only mentioned by interviewees from medicine: linkability within a product, and copyright of embedded multimedia.

In the following section, I analyze my interviewees' discussions of four selection criteria: content, perpetual access, copyright of embedded multimedia, and relationship with providers, because these criteria were not as fully explained in existing literature.

6.2.2 Content

All of my interviewees mentioned content criterion, and unsurprisingly, they all put this content criterion as one of the most important selection criteria, or those first-examined criteria during the selection process. Despite the popularity of this criterion, I did notice different ways discussed by my participants to evaluate the content of an e-book product. I identified two types of measurements of content criterion based on my participants' narrations: objective measurement and subjective measurement, which I examine as below.

6.2.2.1 Objective measurement of content

The term “objective measurement” here refers to indicators used to evaluate the content aspect of an e-book product that are independent from the local situation of library. I identified three objective measurements of content.

(1) Quality of content: title list & publisher list

As an e-book product contains multiple titles, a straightforward way to evaluate the quality of the e-book product is to examine the quality of titles provided in this product. Several librarians mentioned that they often request a list of titles included in a product to determine the content quality, as a librarian contended that the selection committee members would discuss “whether this is a good collection, by looking at their title list.” Notwithstanding, those librarians did not provide further explanation about how they determine the quality of each title, and then how they combine the evaluation of each title to form an overall evaluation of the product.

In addition to requesting and reviewing the title list contained in an e-book product, many interviewees used a simplified method to evaluate the content quality by considering the reputation of publishers for those individual titles. Specifically, some interviewees contended that they would determine the quality of an e-book product by investigating whether the publisher(s) who publish the individual titles within this product are “core” or “strong” or “reputable” or “important”, regardless of whether the product is from a publisher, or from an aggregator. For instance, one participant from a consortium stated that they only purchase a product when all the member libraries agree that the titles contained in the product come from “core” publisher(s). Similarly, another interviewee explained how she relied on the publisher information to evaluate the content by stating

“Generally, the large packages we purchased were sort of well-known pool of content. I mean we look at things like publishers included in the package, that's

important to us. So if it is a strong publisher list within the package, that's kind of the key thing, that I look at it more than anything else”.

Participants differed in terms of who they considered core publishers. For instance, most interviewees from medical libraries mentioned Elsevier, McGraw-Hill, Springer, and Wolters Kluwer work as core publishers; while several interviewees, particularly those from humanities in large universities, agreed that university presses are core publishers.

Despite the examples of core publishers mentioned by my interviewees, most of them did not provide abstract definitions of what counts as a core publisher. One exception was a librarian from a consortium, when I asked him specifically to explain what a core publisher is, and he gave me the following description:

“Core is a publisher whose books are so important intrinsically, so used to extrinsically in terms of metrics such as how many time they are cited, then we use the qualitative assessment and quantitative metrics to say the acquisition of these books are our budgetary priority, they will be budgeted of the top and therefore we would acquire them as long as possible.”

(2) Scope of content: comprehensiveness and inclusion of core titles

The scope of content, or the coverage of content, is another important objective aspect many librarians would examine when checking the “content” criterion. This attribute of “content” mainly focuses on the breadth the titles cover: whether they are comprehensive in certain fields; or whether those “core titles” are provided in this product.

Many participants claimed that they often examined the content scope of an e-book product. For instance, one librarian described how his library decided not to purchase a product from Oxford University Press, which had seemed appealing:

“We look at what was included, what was excluded from the package, we decided not to pursue that package because we felt too much is missing from this package to make it worthwhile to go forward”.

Many participants, including librarians from both the humanities and medicine, discussed the scope of content, and I noticed that all my interviewees from medicine mentioned this aspect of content, and they all referred to specific products, particularly ClinicalKey from Elsevier, and McGraw-Hill’s Access suite, when talking about the scope of content. Specifically, my interviewees’ discussion of the scope of content can be further divided into two groups: the comprehensiveness of the coverage, and the inclusion of core titles. Some medical librarian interviewees claimed that the comprehensiveness is one of the major reasons for them to first select and then retain those products. For instance, a participant from medicine described ClinicalKey as a “very comprehensive product,” while another interviewee used the words “very broad spectrum” to describe the coverage of e-books contained in AccessMedicine.

Besides the emphasis on the comprehensiveness of the e-book titles cover, some interviewees, most in medicine, articulated that it is more critical to examine whether or not an e-book product includes core titles in certain fields. One interviewee stated that she always examined whether those “big names” titles are included in an e-book product; several interviewees even gave specific examples of those “big name” books for them to check the scope of an e-book product, like Harrison’s Principle of Internal Medicine, Netter’s Atlas of Human Anatomy, and Goodman & Gilman’s The Pharmacological Basis of Therapeutics.

(3) Uniqueness of content: replaceable or not

Some interviewees discussed the uniqueness of the content covered by certain e-book product, or whether its content is also available in other products, especially lower price or light-

DRM alternatives. Several interviewees described how after receiving the title list of a product from its provider, they investigated whether they could obtain the same titles, especially for those core titles, from other products, or through individual title purchase. If the core titles in one product are also available in other products, then it raises the possibility of comparing competitor products. For instance, one participant described her experience of trying to locate alternatives to ClinicalKey by regularly checking other acquisition channels for core titles in ClinicalKey through Serial Solution, which provides records from all e-book providers. Another interviewee shared similar process of comparing the e-books products from BookOvid and ebrary for acquiring major titles published by Wolters Kluwer.

Two participants further specified that the content uniqueness of an e-book product should be examined at the title level, which means they would investigate whether the specific e-book titles contained in one product, rather than the topics covered by those titles, are available in other acquisition channels. As one of them explained:

“Not just what the books are about, but what the books are. I mean who the editor is, and then you know somebody comes to me and says they want me to purchase this book, I will not say to them: ‘I’m not gonna purchase that one, because there’s another one that looks a lot like it’. They’re usually gonna to say: ‘no no no, that’s not what I want; I want this one.’”

6.2.2.2 Subjective measurement of content

The subjective measurement of content criterion includes indicators that reflect the local situation of a certain library when evaluating the content aspect of e-book product. My interviewees talked about two subjective measures (1) local demands (2) overlap with current collections. I provide detailed description of each below.

(1) Local demands of the content

The most common subjective measurement of the content criterion, as discussed by my interviewees, is whether library patrons need and would use those content, especially to meet short-term demands. As mentioned earlier, many interviewees mentioned the financial constraints of their libraries; one consequence of the current budgetary situation is that many libraries have to put most of their money towards content that will meet their patrons' immediate or short-term demands, rather than fulfilling some high-level or long-term goals, such as selecting high-quality materials regardless of limited usage, or preserving scholarly communications. For instance, a librarian described how she missed "the good old days" when libraries "had a lot of money, [and the librarians] wouldn't necessarily wait for a request. [...]. [The librarians] just go and collect [the materials] that [they] knew would be great." Meanwhile, this interviewee claimed that she felt "sorry for the selectors today that they don't really know what like to have that experience," because the current selectors, at least those in her library, can only acquire the content that are requested by the patrons.

Despite that librarians might have mixed feelings towards the changing goals of selection, almost all of my interviewees mentioned that, when evaluating the content criterion of a potential e-book product, it is important for them to select a product that would be used by their patrons. For instance, one participant stated that "the demonstrated need [of a product] is going to write above everything else." Similarly, another interviewee claimed that "we want to make sure we're choosing books that we know they're going to be used— potential usage."

Moreover, some interviewees also described how they determined whether the content covered by an e-book product would be used by their library patrons, including the following four strategies: request/ recommendation from patrons, review of curriculum, trial, and acquisition models based on patrons' need. I explain these four strategies below.

- Request/ recommendation from patrons

Some interviewees addressed that they treated the patrons' requests or recommendation, especially those from faculty, as a direct and strong indicator of local demands, because it is guaranteed, in most cases, that those books would be used at least once by the requesters. Note that most requests from library patrons are not for a whole product, but for individual book titles, or a small collection of e-book titles, as a humanities librarian described the type of requests she often received, by stating that "Often it's not like 'let's go by that e-book package', but it's often things like 'let's buy this collection of reference e-book' that someone would want. So like we just got a request that an English faculty would really like us to buy the Cambridge Companion to Literature and Classics."

Several interviewees explained how they would use those title level requests to evaluate the content of a product. For instance, an HS librarian described how she decided to acquire Springer Protocols⁹ due to the accumulative demands of content covered by the product: "We didn't buy Springer Protocols until we had a few requests for "Methods in Molecular Biology", which is in Springer Protocols. Because we just weren't sure that there are so many protocol products out there, and we weren't sure which one our faculty would be drawing to."

Despite the rareness of a product-level request, one HS librarian did mention her experience with requests for a whole product, as described below:

"Actually, for AccessEmergency and AccessSurgery, the faculties specifically mentioned those products. Not just a book. So they were specifically asking for those portals. For AccessSurgery, the faculty member is also in a high position in surgical education. [...] Same things for AccessEmergency, for it is especially for residency education. So it does come from

⁹ Scientists often treat Springer Protocols as either journal or book database. See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4188063/>. In this dissertation, I treated Springer Protocols as an e-book product, rather than a journal database.

faculty, and sometimes based on books people asked for, then we find the product that has the books.”

- Review of curriculum

Review the curriculum is another technique often mentioned by my participants to evaluate the potential usage of the content. Through the examination of curriculum, librarians could learn about the textbooks used in a certain course, which is another indicator of guaranteed usage of the content. For example, a participant articulated how his library would examine the curriculum in the selection process:

“In general, when we were deciding which database to support, we rely a lot on faculty recommendations. If we know they're going to tie to their curriculum, that's our main criteria. We're liberal arts college library, we're not research libraries, so our primary mission is to support the curriculum. So if we know they're going to be used in teaching, then we're likely to support it.”

Likewise, an HS librarian gave specific example of how the examination of curriculum, particularly the textbooks, had led to her library's acquisition of Elsevier's MD Consult:

“Faculty were using a number of ELV titles, and for different various courses. And then just what happen is we noticed: this is Elsevier, this is Elsevier, this is Elsevier. I wonder if there is any way we can get these together. That's what I looked, and I looked at this clinical education collection, and said: ‘hey, several books are available in this collection’. So that what started the ball rolling”.

In addition to the two methods to evaluate the local demand of the content, interviewees also talked about two other way to measure the local demand: checking the usage statistics from a trial periods, and reliance on acquisition models driven by users, like the PDA, or EBA.

(2) Overlap with current collections

Another subjective measurement of content criterion is to examine the overlaps between the e-book titles included in a candidate product and the library current collections. Some

interviewees discussed checking the product's duplication with either the print or e-books collections, and one interviewee even mentioned that her library was "almost on the verge of cancelling" the ACLS Humanities e-books, because many of its titles are already in the library collection as print books.

Interesting to note that among the interviewees who examined the content duplication, everyone from humanities focused on the overlaps between the candidate product and library's print collection; while for the participants from HS, they tended to investigate the overlaps with their e-book collections, and they seem to agree that there are not many overlaps between different e-book products.

6.2.3 Perpetual Access (PA)

PA here refers to "the ability of libraries to obtain continuing access to subscribed materials after the termination of subscription regardless of access charge or location of materials" (Zhang & Eschenfelder, 2014, p.64). In the following section, I describe my findings on the various priorities my interviewees had placed on PA of the e-book products. I then explain some of the reasons some interviewees strive for PA, and the reasons other interviewees do not strive for PA.

6.2.3.1 PA: not a deal breaker, but reflects different degrees of preferences

As demonstrated in Figure 6-1, half of my interviewees (10) used perpetual access (PA) as one of their selection criteria. By closely examining their interview data, I found these interviewees did not place a very high priority over the PA criterion: none of them treated this criterion as a deal breaker during their selection processes. In other words, these interviewees would still consider an e-book product as a purchasing candidate, even if no PA was offered. I further noticed that my interviewees made different efforts to seek for PA, from actively

negotiating with providers, to communicating their needs with providers, and also to expressing their feelings when PA was unavailable. I describe these different efforts below.

First, some interviewees, particularly those from large libraries or consortia, actively negotiated with providers to ensure different aspects of PA, including PA availability, how to provide PA, and how to define the PA for a consortium. For instance, one medical librarian described that she would “go into a negotiation with ClinicalKey about PA again,” when her library was going to renew the license in 2018. This librarian then shared her previous experience negotiating for PA for ClinicalKey several years ago, which failed in the end. She further explained that the main reason for ClinicalKey not providing PA was because the product at that time was “so new that it was hard to tell what they were going to do.” Similarly, another medical librarian negotiated with Elsevier about PA for ClinicalKey for several times, and she had learned that the publisher would like to charge “whole lot of money to provide unlimited access” for PA. This librarian did not accept this offer, because she preferred a one simultaneous user option with much lower price for PA for the older editions of e-books. Moreover, another librarian contended that his library always tried to push the providers to provide PA for their e-books through Portico, CLOCKSS or HathiTrust. In addition to the PA for individual libraries, an interviewee from a consortium described how her consortium negotiated with ProjectMUSE to ensure that each consortial member library would still have PA to the e-book titles provided by ProjectMUSE, even after they left the consortium.

Second, two interviewees described how they only communicated their needs for PA to e-book providers, but did not take any further steps to strive for PA. Both of these librarians talked about their experience asking Elsevier to provide PA to ClinicalKey, and both of them had

“no luck and give up.” In these two cases, librarians just accepted what was offered by the provider - i.e., no PA – and did not take any further actions to push for the provision of PA.

Third, most of my interviewees that talked about PA expressed negative feelings about the unavailability of PA for certain products, but did not mention any communications with providers about their needs for PA. Most of these librarians used words like “sad”, “frightened”, “unhappy”, or “concerned” to describe their feelings when they had learned that PA was not available for some e-book products. In these cases, my interviewees did not describe their actions to ask for PA, so it is unclear how they learned that PA was not available. Interestingly, one interviewee felt the lack of PA did not seem to “bother anybody,” and thus she did not request for PA; however, she listed PA as one of her selection criteria.

6.2.3.2 Why PA?

Some of my interviewees explained two reasons PA was important for their libraries: negative users’ experience when PA was not provided, and libraries’ roles in preserving scholarly communications. I describe these two reasons below.

First, two interviewees claimed that the main reason they treated PA as a selection criterion was because in the past their library patrons were frustrated when they lost access to the e-book titles that were previously available to them. However, these two cases covered different factors. In the first case, library patrons were confused that some of the e-book titles disappeared from library catalog at the termination of a license; in the second case, library patrons were frustrated when certain e-book title was automatically replaced by a newer edition in the middle of a semester. This book was used for a class and the all the assignments were based on the older edition. In order to maximally reduce or even eliminate confusion and frustration encountered by

library patrons, these two interviewees decided that PA was an important criterion for selecting e-book products.

Second, some interviewees, most from large libraries, argued that PA would guarantee the long-term preservation of scholarly communication, at that this was one of the main responsibility of libraries or librarians. If an e-book product's PA was not guaranteed, libraries could lose access to these materials permanently, which arguably hinders the libraries' role to preserve the scholarly communication. For instance, one medical librarian expressed concern that, without PA for current e-books, it might be difficult for researchers in 2200 to find information about how medical schools taught their students about the treatment of Zika in 2016. As another librarian explained, "for me, being an old-fashioned librarian, I still feel that I'm advocating my duty as preserving the scholarship." The sense of the responsibility to preserve scholarly communication caused these interviewees to treat PA as a selection criterion.

6.2.3.3 Why not ask for PA?

Many interviewees, mostly from medicine, also talked about the reasons why they did not make great efforts to negotiate for the PA of an e-book product.

(1) Perceived unavailability of PA:

One theme that emerged from several medical interviewees was that they perceived that PA was not available for the major products. These perceptions not only caused librarians to feel sad, frustrated, and unhappy, as discussed earlier, but also caused some librarians to accept that it was a norm for publishers not to provide PA for their e-book products. With this perception of a "norm" in mind, some librarians did not take any efforts to negotiate for e-book PA.

Interestingly, several interviewees further explained that the main reason e-book providers did not provide PA was a lack of motivation, particularly economic motivation, for providers to do so. As one interview put:

“They (publishers) don’t care, because it is not their business: their business is not preserving the historical record; their business is making money. They are not interested in the same thing as libraries are interested in - that is part of preserving knowledge. I think that’s the real tragedy in medicine.”

(2) Absence of users’ concerns about PA

Two interviewees from medicine argued that their patrons only wanted the most recent edition of books, therefore, the patrons “obviously don’t care” about whether or not they had access to the older editions, and “nobody is going to buy a 10-year old copy of Harrison's.” Without an indicator of users’ future demand for PA, librarians felt less urgent about pushing for PA for the older editions of e-book titles, especially when they had access to the most recent edition.

(3) Other options to guarantee the long-term access

Some interviewees also argued that they had other ways to ensure the long-term accessibility of the titles included in an e-book package, and therefore, they did not need to strive for the PA in an e-book product. These alternative options discussed by my interviewees include:

- Print copy in library collection: several medical interviewees claimed that they were aware of the unavailability of PA provided by e-book products, therefore, their libraries decided to purchase print copies of some of the e-book titles to guarantee their long-term accessibility. Meanwhile, these librarians also contended that it was impossible for them to buy print copies for every e-book title due to the flat budget and limited space. This tension required that they employ strategies to identify the titles for which the libraries would purchase a print version. For

instance, one interviewee said her library would focus on purchasing print version of textbooks, while another interviewee claimed that her library would purchase every other edition of big name titles. Although the acquisition of a print copy did allow libraries to provide long-term access to content, the print version was, as one interviewee pointed out, not exactly the same as e-book titles. Print versions often did not include some features such as supplementary videos and searchability within the texts.

- Print copy held by other libraries: one interviewee claimed that her library relied on the print collection in another health sciences research library within the same state to guarantee the long-term accessibility of some key titles, because she knew that library had maintained a “pretty large” archive of medical books. Likewise, another interviewee, when facing the unavailability of PA for a main medical e-book product, chose to “hope some libraries somewhere” have the older editions of those titles in print, because she knew those older editions were not available online due to their automatically replacement by the latest editions.

- Patrons’ personal copy: when discussing the unavailability of some older editions of medical books from library collection, one interviewee mentioned that it was possible that some users had those older editions at home. Then she further suggested that libraries should reach out to these patrons, and ask them to deposit their personal copy to libraries, because “that is a heritage issue, and that is what we (libraries) do!”

6.2.4 Copyright of embedded multimedia

Among all my 20 interviewees, only two of them, both from medical libraries, identified the copyright of embedded multimedia as one of their selection criteria, and one of these two interviewees also used this copyright criterion to make retention decisions. As described in Chapter 1, medical e-book products contain e-book titles as well as other electronic resources,

like e-journals, and multimedia content like digital images and videos. One interviewee explained that library patrons, especially faculty members, often used these embedded images or videos in their slides for teaching or conference presentations. But both interviewees noticed that some images and videos that should have come along with the e-books were not available to library patrons,¹⁰ and they also noticed that the missing multimedia occurred across different medicine e-book products. One interviewee, based on her conversations with the providers, further claimed that multimedia was dropped from library e-book versions when e-book providers failed to make some “special arrangements” to get permission from the rights holders. She then pointed out that the missing multimedia would effect the integrity of the e-book products. The missing content might lead library patrons to question whether the library is effectively stewarding budget resources by choosing products that have missing parts.

One interviewee further described her actions towards missing supplementary content: if she noticed a missing image or missing DVD in a print book, she would send the book back because the book was “defective;” however, if she found several missing images or videos in an e-book product, then she would contact the representatives of that product to seek solutions. Even if she figured out that the provider could not offer the missing supplementary content as a remedy, this librarian said she would not just simple cancel the subscription to that product. Rather, she would investigate the rough proportion of the missing multimedia in this product, and then determine whether or not to cancel it if the percentage of missing supplementary content was unacceptable, however, this interviewee did not specify an exact number to define what percentage of missing content would be treated as unacceptable.

¹⁰ Both interviewees did not specify whether or not these missing images or videos were available in individual purchased copy of the same e-books.

6.2.5 Relationship with Providers

Five interviewees testified that they would consider the maintenance of the relationship between their libraries and providers when making purchasing decisions. Based on my interviewees' testimony, their perceived relationships with providers was manifested in providers' willingness to listen to librarians' comments or suggestions about their products, regardless whether or not providers actually acted on these comments or suggestions in the end. In other words, librarians' perceived relationships with providers did not stem primarily from the results of their negotiations, but rather it stemmed from providers' demonstrations of collaborative attitudes during the communication processes with librarians. All five interviewees claimed that the providers' responsiveness to their questions would affect their perceptions of their relationship with that provider. For instance, one interviewee articulated that a certain provider was "easy to work with. That is also a consideration! I can talk to them!"

In addition, three interviewees mentioned that another demonstration of positive librarian-provider relationships was when providers actively turned to librarians to seek opinions or suggestions to develop or improve their e-book products. These interviewees gave examples like invitations to providers' advisory boards, or multiple rounds of back-and-forth communications to develop a product that met the needs of librarians. In another case, one interviewee described how a provider actively helped her libraries to reduce the number of concurrent users needed, which then reduced the library's spending on the product. This interviewee concluded that "I feel like [the provider] is not trying to take advantage of this, like not taking extra money from us. And that's something that vendors need to be aware of, that being a good guy."

6.3 Discussions: Connection to consumer research models

In this section, I discuss the connections between my findings in selection criteria and the three ideas learned from the models in consumer literature: 1) distinction between purchasing new products and retention decisions; 2) anchoring and adjustment; and 3) emotional factors.

First, I distinguished two types of selection criteria discussed by my interviewees: criteria used for purchasing a new product, and criteria used for making retention decisions. This distinction of decisions and the criteria used in these two different decisions echo Mikkonen's model, where they examine decision-makers' pre-to-post-purchase behaviors. Particularly, both my study and Mikkonen et al.'s model find criteria that are only applied to decision makers' retention decisions, as these criteria come from decision makers' post-purchase evaluation of the products, like the actual usage of e-book products revealed in my study, and the variables under "service satisfaction" and "usage convenience" in the study of Mikkonen et al.. However, my study also reveals a finding in the criteria used in retention decisions that is different from Mikkonen et al.'s study. Specifically, Mikkonen et al. found no overlaps between the criteria used to make retention decisions and the criteria used for purchasing a new product. On the contrary, I found that all the criteria used in retention decision, except for the actual usage criterion, were a subset of the criteria used for purchasing a new product. In other words, most retention decisions tended to be an expedient assessment of the product, where decision makers only evaluated a few key aspects of the products, as I described earlier in Section 5.3.2.3

Second, I argue that my interviewees' examination of core publishers and core titles when evaluating the content criterion is an example of using anchoring and adjust, as suggested by Yadav's model. Again, anchoring and adjustment refers to a strategy decision-makers use to combine the evaluation of multiple criteria: first, they focus on the most important item as the

anchor item in a bundled product to form an initial evaluation, and, then, they adjust their evaluation by taking into account the less important items in the product. Here in my study, as the content criterion contains multiple variables, as discussed in Section 6.2.2.1, many interviewees relied on the reputation of publishers included in an e-book product to form an initial and major evaluation of the content quality, while they used the inclusions of pre-identified core titles to form an initial and major evaluation of the comprehensiveness of the content. In other words, when evaluating the content quality, these interviewees simplified the process by not evaluating the quality of each title included in the product, but by investigating whether the publisher(s) who published the individual titles within this product were “core” or “strong” or “reputable” or “important”. Similarly, some of my interviewees largely relied on the inclusion of core list titles to simplify the evaluation of the comprehensiveness of the content. Interestingly, I also found that librarians in both disciplines seemed to have a shared understanding about what count as core publishers, while librarians from medicine seemed to agree on what count as core titles.

Third, I found that some librarians use their perceived relationship with providers as a selection criterion, and I argue this criterion is an emotional factor, as discussed in the model from Mikkonen et al.. Mikkonen et al. identify several emotional factors, such as customer relation and provider responsiveness, and they claim that emotional factors reflect the psychological issues of the decision makers. Here in my study, I also found two different ways for my interviewees to measure their relationships with providers: providers’ demonstrations of collaborative attitudes, and providers’ efforts to seek opinions or suggestions to develop or improve their e-book products. Both ways reflect librarians’ need to be emotionally assured that they are valued customers of the providers, and they have control or power over the providers.

Chapter 7: Conclusion

7.1 Revised conceptual model

In section 4.6.1, I used Mohr's framework and my analysis of library selection models to develop a conceptual model containing elements from both process model and variance model approaches. In this section, I refine this conceptual model by adding findings from my interviews, as demonstrated in Figure 7-1, in order to provide a comprehensive picture of the decision-making processes for librarians to purchase e-book products.

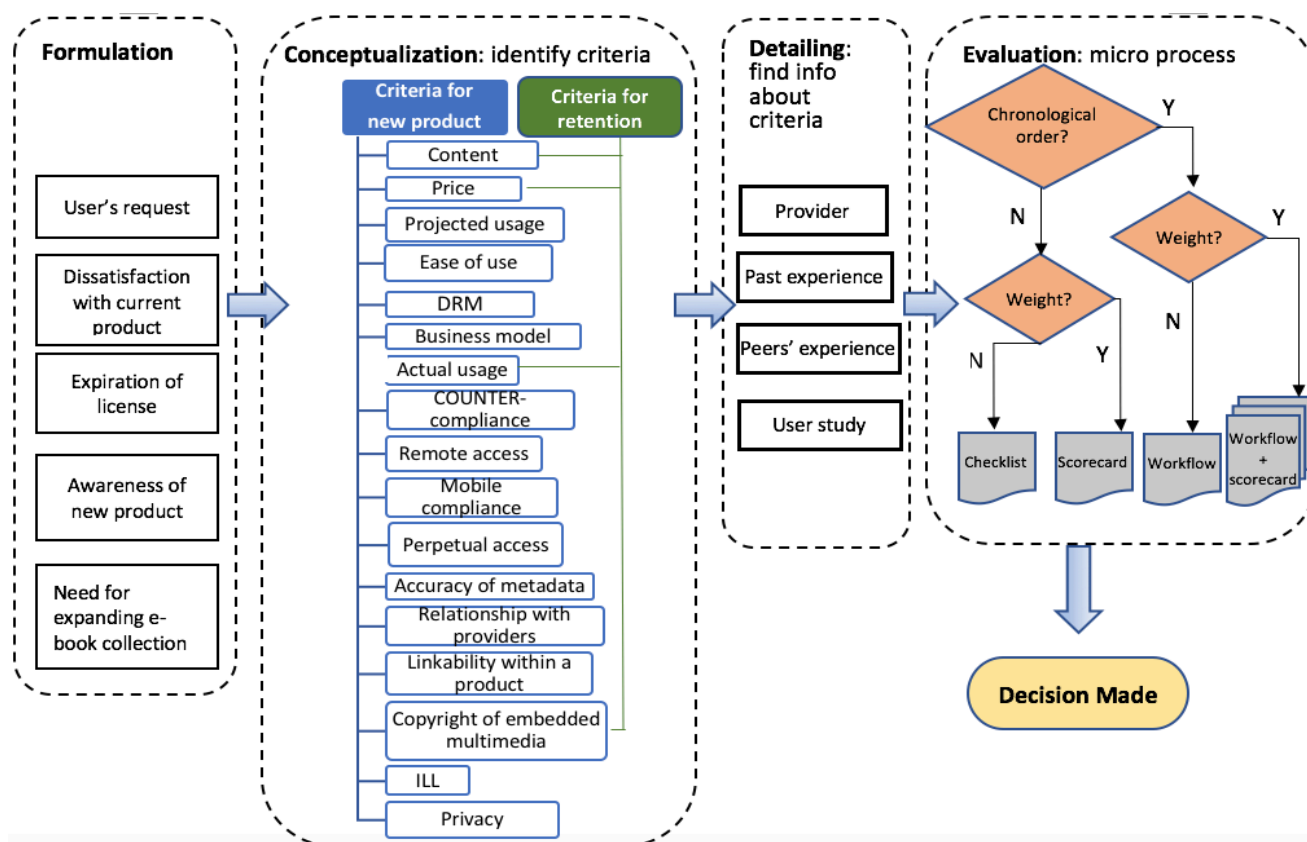


Figure 7-1: The Four Stage model to describe librarians' decision-making processes of e-book product

This revised conceptual model includes four stages that describe how librarians make e-book product purchasing decisions. The first stage is formulation, which was not included in my original model. In the formulation section shown in 7.1 above, I list the major activities described by my interviewees that triggered their decision-making processes, including users' requests either on the product level or on the title level, librarians' dissatisfaction with the current product, an expiring license of a current product, librarians' awareness of a new e-book product, and libraries' goals to expand their e-book collections.

The second stage is conceptualization, which is a part of the macro process in the original model. This step focuses on identifying criteria used either for purchasing a new product or making retention decisions. In the 4-stage model above, I listed all the criteria mentioned by my interviewees. The third stage is detailing, which is another part of the macro process in the original model. This step concentrates on finding information about each of the selection criteria identified in the previous conceptualization stage. Here, I catalogue the main sources discussed by my interviewees for obtaining information about selection criteria, including e-book providers, the library's experience, peer libraries' experience, and user study.

The final stage is evaluation, which is a micro process identified in the original model. I further refine this evaluation stage by depicting variations in terms of a criterion's chronological order or weight. Some criteria may be used first, others later. Some criteria may weigh heavier in the decision than others. I also provide examples of the tools used different situations; for example, a checklist is useful for criteria without chronological order or weight variation, a scorecard or other pointing systems can be used to combine criteria with different weights, a workflow chart helps decision-making for criteria that have different chronological orders, and a

combination of scorecard and workflow chart would fit in the situation where the criteria have different chronological orders and varied weights.

7.2 Summary of key findings

My dissertation contains two parts: (1) a meta-analysis of selection models from both library and consumer research literature and (2) interviews with e-book selection librarians about their decision-making processes and selection criteria. In Chapter 4, I first identified six models libraries use to select books and e-journals and two models used for individual customers to select bundled products. A systematic comparison of those models reveals the following major findings. First, the majority of the examined models were variance models or contained variance components, while only three process models were found. The prevalence of variance models reflects librarians' emphasis of selection criteria rather than decision-making processes when discussing their libraries' selection practices. Second, by examining the diffusion of two different strategies used in librarians' selection practices- simple-criteria strategy and model strategy, I found these two strategies have been at different institutionalization stages: I argue that the simple-criteria strategy has achieved sedimentation, i.e. full-institutionalization, which is mainly caused by normative pressures, particularly through formal education and professional communication. I argue that the model strategy had been at the stage between habitualization and objectification, where creators did not follow the normative simple-criteria strategy. Instead, they questioned the effectiveness of the widely-used strategy and developed more sophisticated ways to try to solve their problems, which then reflected their creators' efforts to be more rational actors in the selection practices. Third, based on the analysis of library models, I developed a conceptual model for e-book selection that contains elements from both process model and variance model, which I further revised in section 7.1. Last, the models from consumer research

suggest new ways to investigate library selection practices, including via the role of an anchor item in an e-book product, the distinction between retention decisions and decisions for purchasing a new product, and the impact of emotional factors on library selection decision.

In Chapter 5, an examination of the decision-making processes described by my interviewees revealed the following key findings: first, when describing the context in which they made purchasing decisions of e-book products, my interviewees attested to a great deal of uncertainty about the possible options for acquiring e-books and about users' behaviors or preferences when using e-books. I found that my participants perceived the e-book market to be non-competitive with limited alternative products, although sometimes alternatives were available.

Second, I analyzed my participant's described selection processes in terms of five different decision-making process models based on Nutt's decision process framework (with some revisions) including archetype model, off-the-shelf model, appraisal model, nova model, and pet-idea model. Third, I investigated the strategies my interviewees adopted to justify their purchase decisions, including experimentation, incorporation of users' input, written documents of e-book selection, learning from past experience, learning from other libraries, group decisions, and aggressive negotiation with vendors.

Last, I distinguished two groups of decision-making behaviors described by my participants- the actions that fit with the institutional model and the actions that fit with the rational actor model. One interesting example of an action fitting in the institutional model was decision-making where decision makers took it for granted that they only had to examine one particular product without seeking alternatives. Three concepts from institutional theory that help explain these actions include 1) coercive isomorphism derived from non-competitive library e-

book market, 2) mimetic isomorphism derived from decision-makers' uncertainty about what accounted as a good e-book product, and 3) normative isomorphism derived from professionalization.

One interesting example of actions fitting in the rational actor model were found in stories of library decision-makers actively identifying alternatives, calculating the cost and benefits of certain products, and actively negotiating with e-book providers. I then examined two factors that encouraged these rational actions, including 1) decision-makers' encountering a new situation as an external factor, and 2) decision-makers' perceptions of their job responsibility to preserve scholarly communications and, 3) their relationship with providers as an internal factor.

In Chapter 6, I provided an overview of the selection criteria discussed by my interviewees. While many criteria described by my participants have been well documented in the literature, I closely examined four selection criteria that have not been fully explained in previous studies: 1) Content: I identified two ways for my interviewees to measure this content criterion- objective measurements and subjective measurements; 2) Perpetual access: this criterion was not a deal-breaker despite some librarians insistence that it was important, and its perceived importance varied across different interviewees; 3) copyright of embedded multimedia: this criterion was only used by two interviewees from medicine, and it focused on the lack of availability of embedded multimedia due to lack of a deal between copyright owners and e-book providers; and 4) relationship with providers: this criterion built on librarians' perceptions of providers' willingness to listen to librarians' comments or suggestions about their products, regardless of whether or not providers eventually accept these comments or suggestions. Furthermore, I discussed the connections between the ideas learned from the marketing models and my findings on selection criteria.

By combining the findings from model analysis and interviews, I proposed a refined model in section 7.1 that provides a more comprehensive view of librarians' decision-making processes of e-book products.

7.3 Limitations

7.3.1 Internal validity/credibility

This study has inherent limitations. The credibility, or internal validity, of a study concerns how the findings of this research match with the reality. Merriam (2009) contends that credibility is a common challenge for qualitative research because the underlying assumption of qualitative research is that “reality is holistic, multidimensional, and ever-changing” (p. 213). Merriam (2009) summarizes some strategies for increasing the credibility of qualitative research, including triangulation, member checks, adequate engagement in data collection, the researcher's position, and peer review. I only adopted two strategies in this study: triangulation and peer review:

Triangulation: Denzin (1978) suggests four types of triangulation: multiple data collection methods, multiple data sources, multiple investigators, and multiple theories. In this study, I collected data mainly through interviews, while also asking participants to provide relevant documents. I recruited four libraries for each type of library in terms of size and subject area. Furthermore, I used theories from institutional theory to explain emerging findings. However, I still cannot fully apply these triangulation strategies as I was not able to employ triangulation throughout the whole research process. Not every participating library had written documents. Finally, for all but one participating site, I only recruited one librarian. The two interviewees from the same site worked in different branch libraries of that site.

Another strategy I adopted to enhance the credibility of this study is peer review. Peer review rely on peers who are familiar with this topic to scan the findings to “assess whether the findings are plausible” (Merriam, 2009, p. 250). In this study, I presented the findings of model analysis in the ER& L conference and ALISE, and I also presented the preliminary findings of the interviews in ALISE and ASIS&T. By presenting my work to both practitioners focusing on electronic resources acquisition and researchers in library and information sciences, I obtained some feedbacks from these relevant communities.

I have not yet conducted member checks in my study. Member checks require researchers to get feedback from interviewees on the findings to reduce researchers’ misunderstanding or misinterpretation of interviewees’ opinions (Merriam, 2009). I plan to send the key findings of this dissertation to all my interviewees to get their feedback.

7.3.2 Reliability/ consistency

Reliability or consistency of a study refers to “the extent to which research findings can be replicated” (Merriam, 2009, p. 220). Some strategies used to improve credibility, such as triangulation, investigator’s position, and peer examination, can also ensure the reliability of a study, while another common strategy used to increase reliability is an audit trail. First suggested by Lincoln and Guba (1985), an audit trail asks the researcher to record and provide detailed descriptions about the whole research process, from research design to data collection and data analysis. Throughout my study, I kept records of how I conducted this research in detail to improve the replicability of my final findings.

A major reliability challenge specific to this study relates to participants’ ability to describe their selection process. As suggested by my pilot study, many librarians were unable to articulate their selection process. Even though I introduced techniques such as visual elicitation

and aided recall to help my participants recall their e-book selection process, it remains unclear how reliable their answers are. Particularly, their sketches are not developed on solid evidence such as formal documents that guide the selection process. The sketches may be temporary descriptions of unique events, and the same participants might provide a different description when asked a second time. Also, the aided and unaided recall techniques encounter challenges in reliability largely due to the “indeterminate relationship between beliefs and actions” (Barter & Renold, 1999). Therefore, it is unclear how similar the selection processes my participants described in the interview are to their actual selection processes.

7.3.3 External validity/ transferability

External validity or transferability concerns how research findings can be applied to other settings (Merriam, 2009). In order to improve the transferability of my research, I used two strategies that many qualitative researchers use: maximum variation in the sample and description of the participants.

First, I used maximum variable strategy when determining the participating libraries and interviewees. This strategy asks researchers to include participants that have variations in their characteristics in order to increase the possibility of generalizing the findings to a greater audience. As explained earlier in this chapter, when I had more than one library or interviewee candidate during the sampling stage, I always chose the one that had different characteristics from the other libraries or interviewees. These characteristics included library size, the library home institution’s characteristics, and the interviewee’s experience with e-book selection.

Second, I used direct quotations from the interviews to provide evidences of my findings. However, my limited descriptions of the settings of participating libraries or interviewees are not

sufficient for the readers to determine the similarities between this research and their own settings.

Some scholars argue that transferability issues pose an inherent challenge for qualitative research (Cronbach 1975; Lincoln & Guba, 1985; Patton, 2002). The limitations of transferability in this study stem from the number of participants and types of libraries. As discussed earlier in this chapter, I included a small number of academic libraries or library consortia. While this study captures the potential impact of discipline on e-book selection practices, there are other characteristics of a library or librarian that might also affect the selection practices but are not addressed in this study, like the nature of home institution (research university or teaching university; public university or private university), and librarians' experiences in print book or e-journal selections. Even for these limited participating libraries, I did not interview every selection librarian in the targeted subject areas. Therefore, the number of libraries and interviewees limits the transferability of findings to academic libraries in general. Further, I only chose two subject areas (humanities and medicine), which presents a challenge for application of the findings to other disciplines.

7.4 Future research

My future research focuses on examining the library e-book market from the perspectives of both library and publishing communities. I will use institutional theory to further explore the degree of consensus among academic librarians in terms of their e-book product selection practices. Specifically, I plan to investigate how library school collection development textbooks represent e-book selection strategies. I will first locate the textbooks used in collection development classes in the recent five years from the ALA-accredited programs and then

conduct a content analysis of the selection criteria and selection processes discussed in those textbooks to explore the influence of formal education on librarians' selection practices.

A second future project, which is based on the findings from my dissertation, is to conduct a comparison study of academic librarians' e-book product selection practices between the U.S. and China. In order to ensure the comparability of data, I will use one-on-one interviews to collect data about how academic librarians in China make purchasing decisions of e-book products.

Another long-term project is to develop an expert decision-support system to assist librarians in making purchasing decisions of e-book products. The first step in this future project is to systematically review the main approaches used to develop expert decision-support systems.

In addition, I also plan to investigate the processes by which e-book providers design an e-book product under the theoretical framework of product bundling. Particularly, in this project I will identify how e-book providers determine an optimal e-book product as a bundled package. I plan to recruit participants from the publishing industry for one on one interviews. My connections with academic publishers and aggregators will help me on the recruiting process.

References:

- Agee, J. (2003). Selecting materials: A review of print and online resources. *Collection Building: Bradford*, 22(3), 137.
- Anderson, R. (2010). Managing Multiple Models of Publishing in Library Acquisitions. *Against the Grain*, 22(1), 18–20.
- Anson, C., & Connell, R. (2009). *SPEC Kit 313: E-book collections, October 2009*. Washington DC: Association of Research Libraries.
- Armstrong, C., & Lonsdale, R. (2005). Challenges in managing e-books collections in UK academic libraries. *Library Collections, Acquisitions, & Technical Services*, 29(1), 33–50.
- Atkinson, R. (1984). The citation as intertext: toward a theory of the selection process. *Library Resources and Technical Services*, 28(2), 109-119.
- Bailey, T. P., Scott, A. L., & Best, R. D. (2015). Cost Differentials between E-Books and Print in Academic Libraries. *College & Research Libraries*, 76(1), 6–18.
- Bailey-Hainer, B., & Forsman, R. B. (2005). Redefining the Future of Academic Libraries: When the Definition of “Public Good” Changes. *The Journal of Academic Librarianship*, 31(6), 503–505.
- Baker, C. (2014). eBook Collection Development in Public Libraries. In B. Albitz, C. Avery, & D. Zabel (Eds.), *Rethinking Collection Development and Management* (pp. 199-214). Santa Barbara, California: Libraries Unlimited.

- Balas, J. (2001). Think like a patron when you consider buying E-books. *E-Book Web Sites*, 21(5), 56–58.
- Ball, R. (2009). E-books in practice: the librarians' perspective. *Learned Publishing*, 21, 18–22.
- Barter, C. & Renold, E. (1999). The use of vignettes in qualitative research, *Social Research Update*, 25, Retrieved from <http://sru.soc.surrey.ac.uk/SRU25.html>
- Belvadi, M. (2016). DDA and traditional monograph acquisition - the experience of a small university library. *Insights; Newbury*, 29(1), 64–69.
- Berger-Barrera, J. (2008). ACLS Humanities E-book an examination. *Collection Building*, 27(3), 118–120.
- Besen, S. M., & Kirby, S. N. (2014). Library Demand for E-books and E-book Pricing: An Economic Analysis. *Journal of Scholarly Publishing*, 45(2), 128–141.
- Block, C. (2012). If Books Are Our Brand. *Public Libraries*, 51(1), 8–10.
- Bloor, M and Wood, F. (2006) *Keywords in Qualitative Methods: A Vocabulary of Research Concepts*. London: Sage.
- Blummer, B., & Cox, C. N. (2006). E-Books Revisited: The Adoption of Electronic Books by Special, Academic, and Public Libraries. *Internet Reference Services Quarterly*, 11(2), 1–13.
- Blummer, B., & Kenton, J. (2012). Best Practices for Integrating E-books in Academic Libraries: A Literature Review From 2005 to Present. *Collection Management*, 37(2), 65–97.

- Bostic, M. (1988). "A Written Collection Development Policy: To Have or Have Not".
Collection Management, 10(3), 81-86.
- Bryant, B. (1980). Collection Development Policies in Medium-Sized Academic *Libraries*.
Collection Building, 2(3), 6-26.
- Buckley, M., & Tritt, D. (2011). Ebook Approval Plans: Integration to Meet User Needs.
Computers in Libraries, 31(3), 15–18.
- Bucknell, T. (2012). Buying by the Bucketful: A Comparative Study of E-Book Acquisition Strategies. *Insights*, 25(1), 51–60.
- Bucknell, T. (2010). The "big deal" approach to acquiring e-books: a usage-based study. *Serials*, 23(2), 126–134.
- Bull, S., & Quimby, A. (2016). A renaissance in library metadata? The importance of community collaboration in a digital world. *Insights; Newbury*, 29(2), 146–153.
- Carpenter, E. (1984). Collection Development Policies: The Case For. *Library Acquisitions: Practice and Theory*, 8(1), 43-45.
- Carreño, A. M. , & Maltarich, B. (2013). Aggregation, Integration, Cooperation. *eContent Quarterly*, 1(2), 36–52.
- Carrico, S. B., Cataldo, T. T., Botero, C., & Shelton, T. (2015). What Cost and Usage Data Reveals About E-Book Acquisitions: Ramifications for Collection Development. *Library Resources & Technical Services*, 59(3), 102-111.
- Carroll, D. (2010). *Ebooks: Taking the next step*. PowerPoint Presentation. Retrieved from <https://research.wsulibs.wsu.edu:8443/xmlui/handle/2376/2568>

- Chant, I., Enis, M., & Schwartz, M. (2013). Penguin Ebooks Return to OverDrive. *Library Journal*, 138(17), 12.
- cilip. (2014). Ebook Acquisition and Lending in Public Libraries. Retrieved May 5, 2016, from [http://www.cilip.org.uk/sites/default/files/documents/Ebooks%20in%20public%20libraries%20-%20briefing%20\(October%202014\).pdf](http://www.cilip.org.uk/sites/default/files/documents/Ebooks%20in%20public%20libraries%20-%20briefing%20(October%202014).pdf)
- Collins, T. (2012). The Current Budget Environment and Its Impact on Libraries, Publishers and Vendors. *Journal of Library Administration*, 52(1), 18–35.
- Courant, P. N. (2008). The Future of the Library in the Research University. In *No Brief Candle: Reconceiving Research Libraries for the 21st Century* (pp. 21–27). Washington, D.C.: Council on Library and Information Resources.
- Courant, P. N., & Jones, E. A. (2015). Scholarly Publishing as an Economic Public Good. In M. Bonn & M. Furlough (Eds.), *Getting the word out: Academic Libraries as Scholarly Publishers* (pp. 17–42). Chicago, IL: Association of College and Research Libraries.
- Cronbach, L. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist*, 30(2), 116–127.
- D'Agostino, D. (2010, January 16). *Mortgaging the future of universities the e-book package way* [Web log post]. Retrieved from TeleRead: News and views on e-books, libraries, publishing, and related topics. Retrieved from TeleRead, www.teleread.com
- Delanoy, D. D., & Cuadra, C. A. (1972). *Directory of academic library consortia*. System Development Corp.

- DeMarrais, K. (2004). Qualitative interview studies: Learning through experience. In K. DeMarrais & S. D. Lapan, *Foundations for research: Methods of inquiry in education and the social sciences* (pp. 51-68). Mahwah, N.J. : L. Erlbaum Associates.
- Denzin, NK. (1978). *Sociological Methods*. New York: McGraw-Hill.
- Marrais & S. D. Lapan (Eds.), *Foundations for research: Methods of inquiry in education and the social sciences*, (pp. 51-68), Mahwah, NJ: Lawrence Erlbaum.
- Demas, S., & Miller, M. (2012). Rethinking Collection Development Plans: Shaping Collective Collections for the 21st Century. *Collection Management*, 37, 168-187.
- DePew, J. N. (1975). An Acquisitions Decision Model for Academic Libraries. *Journal of the American Society for Information Science*, 26 (4), 237-246.
- Dexter, L. A. (1970). *Elite and Specialized Interviewing*. Evanston, IL: Northwestern University Press.
- DiMaggio, P. J. & Powell, W.W (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, 48 (2), 147-160.
- Dooley, J. (2011). E-books for higher education. In Price, K., and Havergal, V. (Ed), *E-books in libraries: A practical guide* (pp. 117-138). London: Facet Publishing.
- Doucette, J., & Lewontin, A. (2012). Selecting E-books. In R. Kaplan (Ed.), *Building and Managing E-Book collections* (pp. 51–74). Chicago: Neal-Schuman.
- Dresselhaus, A. (2016). Literature of Acquisitions in Review, 2012-13. *Library Resources & Technical Services; Chicago*, 60(3), 169–181.

- Ebook business models: a scorecard for public libraries (2013)*. Retrieved May 5, 2016, from http://www.districtdispatch.org/wp-content/uploads/2013/01/Ebook_Scorecard.pdf
- Enis, M. (2012). Macmillan Confirms Library Lending Pilot. *Library Journal*, 137(17), 15–17.
- Ferguson, A. W. (2000). Digital Library Selection: Maximum Access, Not Buying the Best Titles: Libraries Should Become... *Journal of Library Administration*, 31(2), 27-38.
- Finch, J. (1987). The Vignette Technique in Survey Research. *Sociology*, 21(1), 105–114.
- Fischer, K. S. (2016). Patron-driven acquisitions: assessing and sustaining a long-term PDA e-book program. In S. M. Ward, R. S. Freeman, & J. M. Nixon (Eds.), *Academic e-books : publishers, librarians, and users* (pp. 107–126). West Lafayette, Indiana: Purdue University Press.
- Foster, K., & Ransley, E. (2011). E-books for further education. In Price, K., and Havergal, V. (Ed), *E-books in libraries: A practical guide* (93-115). London: Facet Publishing.
- Gale, C. (2016). Champions and e-books: using student Library Champions to inform e-book purchasing strategies. *Insights; Newbury*, 29(2), 181–185.
- Garnham, N. (1987). Concepts of Culture: Public Policy and the Cultural Industries. *Cultural Studies*, 1 (1): 23–37.
- Georgas, H. (2015). The Case of the Disappearing E-Book: Academic Libraries and Subscription Packages. *College & Research Libraries*, 76(7), 883–898.
- Goedeken, E. A., & Lawson, K. (2015). The Past, Present, and Future of Demand-Driven Acquisitions in Academic Libraries. *College & Research Libraries*, 76(2), 205–221.
- Golderman, G., & Connolly, B. (2003). Bundles of Books. *Library Journal*, 128(17), 28–35.

- Gregory, V. (2011). *Collection development and management for 21st Century library collections: an introduction*. New York: Neal-Schuman Publishers.
- Hadro, J. (2008). Ebooks and .epub at IDPF. *Library Journal*, 133(11), 25–26.
- Hadro, J. (2010a). Innovation Symposium: The Future Is Mobile. *Library Journal*, 135, 18–20.
- Hadro, J. (2010b). OverDrive programs aim to ease concerns. *Library Journal*, 135(13), 18.
- Hannan, M.T. & Freeman, J.H. (1977). The population ecology of organizations. *The American Journal of Sociology*, 82: 929-964.
- Hawley, A. (1968). Human Ecology. In: Sills, D.L. (ed.) *International Encyclopedia of the Social Sciences*. (pp. 328-337). New York: Macmillan.
- Hjerpe, A. (2014). Library in partnership with publisher. *Scandinavian Public Library Quarterly*, 47(4), 6–7.
- Hodges, D., Preston, C., & Hamilton, M. J. (2010). Resolving the Challenge of E-Books. *Collection Management*, 35(3/4), 196–200.
- Horava, T., & Levine-Clark, M. (2016). Current trends in collection development practices and policies. *Collection Building*, 35(4), 97–102. <https://doi.org/10.1108/CB-09-2016-0025>
- Jackson, M. (2007). One by One or Bundle by Bundle: Evaluating the Landscape of eBooks. *Against the Grain*, 19(2), 48, 50, 52.
- Johnson, P. (2014). *Fundamentals of Collection Development and Management*. (3rd ed). Chicago: American Library Association.
- Johnston, M., & Weckert, J. (1990). Selection Advisor: An Expert System for Collection Development. *Information Technology and Libraries*, 9(3), 219–225.

- Kaelin, S., Barrett, A., Gallagher, D., Heckathorn, J., McElroy, C., Price, A., & Shelton, T. (2016, November). *From Rivalry to Cooperation: Building Collaborative EBA*. 2016 Charleston Library Conference. Retrieved from <https://2016charlestonconference.sched.com/event/8L1t/from-rivalry-to-cooperation-building-collaborative-eba>
- Kelley, M., & Schwartz, M. (2012). OverDrive Offers First Glimpse at “Big Data.” *Library Journal*, 137(9), 16.
- Kenney, B. (2013). Giving Them What They Should Want. *Publishers Weekly*, 260(9), 19–20.
- Lamothe, A. R. (2013). Comparing usage between selective and bundled e-monograph purchases. *Collection Building*, 32(3), 116–121.
- Langston, M. (2003). The California State University E-book Pilot Project: implications for cooperative collection development. *Library Collections, Acquisitions, & Technical Services*, 27(1), 19–32.
- Lessig, L. (2006). *Code version 2.0*. New York: Basic Books. Retrieved from <http://codev2.cc/download+remix/Lessig-Codev2.pdf>
- Levine-Clark, M. (2014). Ebooks in Academic Libraries. In B. Albitz, C. Avery, & D. Zabel (Eds.), *Rethinking Collection Development and Management* (pp. 187–198). Santa Barbara, California: Libraries Unlimited.
- Library Journal & School Library Journal. (2012). *2012 ebook usage in U.S. academic libraries: third annual survey*. Retrieved from <http://www.thedigitalshift.com/research/ebook-usage-reports/>.

- Library Journal & School Library Journal. (2016). *ebook usage in U.S. academic libraries 2016*. Retrieved from <https://lj.libraryjournal.com/downloads/2016academicebooksurvey/>.
- Library Journal & School Library Journal. (2012). *2012 ebook usage in U.S. public libraries: third annual survey*. Retrieved from <http://www.thedigitalshift.com/research/ebook-usage-reports/>.
- Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.
- Lippincott, S. K., Brooks, S., Harvey, A., Ruttenberg, J., Swindler, L., & Vickery, J. (2012). Librarian, Publisher, and Vendor Perspectives on Consortial E-Book Purchasing: The Experience of the TRLN Beyond Print Summit. *Serials Review*, 38(1), 3–11.
- Long, M. P., & Schonfeld, R. C. (2014). *Ithaka S+R US Library Survey 2013*. Retrieved from http://www.sr.ithaka.org/wp-content/uploads/2015/08/SR_LibraryReport_20140310_0.pdf
- Losee, R. M. (1987). A Decision Theoretic Model of Materials Selection for Acquisition. *Library Quarterly*, 57(3), 269–83.
- Losinski, P. (2012). A Call for Vigilance on the Ebook Front. *Library Journal*, 137(14), 26–28.
- Maceviciute, E., Borg, M., Kuzminiene, R., & Konrad, K. (2014). The Acquisition of E-Books in the Libraries of the Swedish Higher Education Institutions. *Information Research: An International Electronic Journal*, 19(2).
- Machovec, G. (2013). Consortial ebook Licensing for Academic Libraries. *Journal of Library Administration*, 53(5/6), 390–399.

- Maskell, C. (2008). Consortia: anti-competitive or in the public good? *Library Hi Tech*, 26(2), 164–183.
- McElroy, E., & Hinken, S. (2011). Pioneering Partnerships: Building a Demand-Driven Consortium eBook Collection. *Against the Grain*, 23(3), 34–38.
- Merriam, S. B. (2009). *Qualitative Research : A Guide to Design and Implementation* (3rd ed.). Wiley.
- Mikkonen, K., Niskanen, H., Pynnönen, M., & Hallikas, J. (2015). The presence of emotional factors: An empirical exploration of bundle purchasing process. *Telecommunications Policy*, 39(8), 642–657. <https://doi.org/10.1016/j.telpol.2015.05.003>
- Mikkonen, P. (2006). Analyzing e-book pricing options and models based on FinELib e-book strategy. *IFLA Conference Proceedings*, 1–7.
- Milofsky, Carl (1981). Structure and process in community self-help organizations. New Haven: Yale Program on Non-Profit Organizations, Working Paper No. 17.
- Minčić-Obradović, K. (2011). *E-books in academic libraries*. Oxford, UK: Chandos Publishing.
- Mohr, L. B. (1982). *Explaining organizational behavior*. San Francisco: Jossey-Bass.
- Morris, C., & Sibert, L. (2011). Acquiring E-books. In Polanka, S. (Ed). *Library Technology Reports: The No Shelf Required Guide to E-book Purchasing*, 47(8), 95-124.
- Moyer, J. E., & Thiele, J. (2012). E-books and readers in public libraries: literature review and case study. *New Library World*, 113(5/6), 262–269.
- NCES. (2002). *Classification of Instructional Programs: 2000 Edition* (No. NCES 2002-165). Retrieved from <http://nces.ed.gov/pubs2002/2002165.pdf>

- Newton Suter, W. (2012). *Introduction to Educational Research: A Critical Thinking Approach*. Thousand Oaks, California: SAGE Publications, Inc.
- NISO Z39.7-2013, *Information services and use: Metrics & statistics for libraries and information providers - Data Dictionary*.(2013). Retrieved from <http://z39-7.niso.org/standard/section4.html>
- Nisonger, T. E. (1999). A review of the 1997 collection development and management literature. *Collection Building; Bradford*, 18(2), 67–80.
- Novak, J. (2013). eBook Lending Platforms. *Against the Grain*, 25(6), 22-26.
- Nutt, P. C. (1984). Types of Organizational Decision Processes. *Administrative Science Quarterly*, 29(3), 414–450.
- Oder, N. (2010). Macmillan CEO Explains Ebook “Agency Model.” *Library Journal*, 135(6), 16.
- Ohio Consortium Adds Ebooks. (2004). *Library Journal*, 129(12), 28.
- Palmer, M. (2011). Public library users connecting with e-books. In Price, K., & Havergal, V. (Ed), *E-books in libraries: A practical guide* (pp. 201-215). London: Facet Publishing.
- Palmer, M. (2012). E-book collection development in public libraries: A case study of the Essex experience. In Fieldhouse, M. (Ed), *Collection development in the digital age* (pp. 83-91). London: Facet Publishing.
- Pan, R. Rosalind, Byrne, U., & Murphy, H. (2009). Nudging the envelope: the hard road to mainstreaming UCD Library e-book provision. *Serials*, 22(3), 12–22.
- Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage.

- Phan, T., Hardesty, L., & Hug, J. (2014). *Academic Libraries: 2012 First Look*. (NCES 2014-038). Retrieved from <http://nces.ed.gov/pubs2014/2014038.pdf>
- Phan, T., Hardesty, L., Hug, J., & Sheckells, C. (2011). *Academic Libraries: 2010 First Look*. (NCES 2012-365). Retrieved from <https://nces.ed.gov/pubs2012/2012365.pdf>
- Pickett, C., Tabacaru, S., & Harrell, J. (2014). E-Approval Plans in Research Libraries. *College & Research Libraries*, 75(2), 218–231.
- Polanka, S. (2012). Bibliotheca Spices Up the Library Ebook Market. *Online*, 36(5), 54–57.
- Polanka, S., & Delquié, E. (2011). Patron-driven Business Models: History, Today’s Landscape, and Opportunities. In Swords, D. (Ed.), *Patron-Driven Acquisitions: History and Best Practices* (pp.119-135). Berlin: Walter de Gruyter.
- Powell, M. (2011). Issues with ebooks. *Library Journal*, 136(14), 10.
- Proctor, J. (2013). Avoiding ebook “big deals”: alternatives to ebook backlists. *New Library World*, 114(7-8), 301–307.
- ReadersFirst Guide to Library E-Book Vendors*. (2014, January). Retrieved April 6, 2016, from <http://static1.squarespace.com/static/53765f6fe4b060b2a3d3586b/t/54c6a4f2e4b08921548f21d9/1422304498084/ReadersFirst-Guide--Library-E-Book-Vendors.pdf>
- Reid, C., Milliot, J., & Feldman, G. (2000). New Initiatives Push E-Publishing to the Fore. *Publishers Weekly*, 247(22), 15.
- Robbeloth, H., Ragucci, M., & DeShazo, K. (2017). Evidence-Based Acquisition: A Real Life Account of Managing the Program Within The Orbis Cascade Alliance. *Serials Librarian*, 73(3/4), 240–247. <https://doi.org/10.1080/0361526X.2017.1388331>

- Roncevic, M. (2013). E-book Platforms for Libraries. *Library Technology Reports*, 49(3), 33–42.
- Rutledge, J., & Swindler, L. (1987). The Selection Decision: Defining Criteria and Establishing Priorities. *College & Research Libraries*, 48(2), 123–131.
- Schwartz, C. A. (1989). Book Selection, Collection Development, and Bounded Rationality. *College & Research Libraries*, 50(3), 328–343.
- Schell, L. (2010). The academic library e-book. In S. Polanka (Ed.), *No shelf required: e-books in libraries* (pp. 75-94). Chicago, IL: American Library Association Editions.
- Schroeder, R., & Boughan, R. (2018). Doing More with Less: Adoption of a Comprehensive E-book Acquisition Strategy to Increase Return on Investment while Containing Costs. *Library Resources & Technical Services; Chicago*, 62(1), 28–36.
- Scown, J. (2013). eBooks: the public libraries consortium experience, LibrariesWest. *Multimedia Information & Technology*, 39(2), 21–22.
- Sharp, S., & Thompson, S. (2010). “Just in case” vs. “Just in time”: e-book purchasing models. *Serials*, 23(3), 201–206.
- Silberer, Z., & Bass, D. (2006). Battle for e Book Mindshare: It’s All About the Rights. Presented at the *World Library and Information Congress: 72nd IFLA General Conference and Council*, Seoul: IFLA. Retrieved from http://archive.ifla.org/IV/ifla72/papers/154-Silberer_Bass-en.pdf
- Simon, J. C. (2014). E-Book Purchasing Best Practices for Academic Libraries. *Journal of Electronic Resources Librarianship*, 26(1), 68–77.

- Singh, J. V., Tucker, D. J., & Meinhard, A. G. (1991). Institutional Changes and Ecological Dynamics. In W. W. Powell & P. J. DiMaggio (Eds.), *The New Institutionalism in Organizational Analysis* (pp. 390–422). Chicago, IL: The University of Chicago Press.
- Soules, A. (2009). The shifting landscape of e-books. *New Library World*, 110(1/2), 7–21.
- Swindler, L. (2016). New Consortial Model for E-Books Acquisitions. *College & Research Libraries*, 77(3), 269–285.
- Swords, D. (2011). PDA and publishers. In Swords, D. (Ed.), *Patron-driven acquisitions: History and best practices* (107-116). Berlin: Walter de Gruyter.
- Taylor, L. (2008). Cutting Edge Books: The Impact of Digital Books on Public Library Acquisitions. *Journal of Electronic Resources Librarianship*, 20(1), 51–61
- Tedd, L. A., & Carin, W. (2012). Selection and acquisition of e-books in Irish institutes of technology librariesA study. *Aslib Proceedings*, 64(3), 274–288.
- Tolbert, P.S. & Zucker, L.G. (1996). The Institutionalization of Institutional Theory. In S. R. Clegg, C. Hardy y Walter R. Nord (Eds.), *Handbook of Organization Studies* (pp. 175-190). Thousand Oaks, CA: Sage.
- Tovstiadi, E., & Wiersma, G. (2016). Comparing Digital Apples and Oranges: A Comparative Analysis of e-Books Across Multiple Platforms. *Serials Librarian*, 70(1–4), 175–183.
<https://doi.org/10.1080/0361526X.2016.1148979>
- Turner, C. N. (2014). E-Resource Acquisitions in Academic Library Consortia. *Library Resources & Technical Services*, 58(1), 33–48.
- U.S. Code of Federal Regulations, § 54.500 (2016). Retrieved May 4, 2016, from
<https://www.law.cornell.edu/cfr/text/47/54.500>

- Vasileiou, M., Hartley, R., & Rowley, J. (2012). Choosing e-books: a perspective from academic libraries. *Online Information Review*, 36(1), 21–39.
- Vasileiou, M., Rowley, J., & Hartley, R. (2012). The e-book management framework: The management of e-books in academic libraries and its challenges. *Library & Information Science Research*, 34(4), 282–291.
- Veach, G. (2014). Purchasing E-books: Considerations and Models for the Smaller Academic Library. *Christian Librarian*, 57(2), 113–119.
- Walters, W. H. (2013). E-Books in Academic Libraries: Challenges for Acquisition and Collection Management. *Portal: Libraries and the Academy*, 13(2), 187–211.
- Wicht, H. (2006). Buying Ebooks. *Library Journal*, 131, 15–17.
- Yadav, M. S. (1994). How Buyers Evaluate Product Bundles: A Model of Anchoring and Adjustment. *Journal of Consumer Research*, 21(2), 342–353.
- Zhang, M. (2013) Libraries' selection process for e-book packages. [Poster]. *Association for Library and Information Science Education (ALISE)*.
- Zhang, Y., & Downey, K. (2017). Ebook ROI: A Longitudinal Study of Patron-Driven Acquisition Models. *Computers in Libraries; Westport*, 37(5), 4–8.
- Zhang, Y., Downey, K., Urbano, C., & Klingler, T. (2015). Notes on Operations: A Scenario Analysis of Demand-Driven Acquisition (DDA) of E-books in Libraries. *Library Resources & Technical Services*, 59(2), 84–93.
- Zhang, M., & Eschenfelder, K. R. (2014). License Analysis of e-Journal Perpetual Access. *The Journal of Academic Librarianship*. 40. (1), 62-69.

Zhu, X., & Shen, L. (2014). A survey of e-book interlibrary loan policy in US academic libraries.

Interlending & Document Supply, 42(2/3), 57–63.

Appendix I: List of e-book products discussed by interviewees

AccessAnesthesiology
 AccessEmergency
 AccessMedicine
 AccessPediatrics
 AccessPharmacy
 AccessSurgery
 ACLS Humanities
 APA PsycNET
 Book@Ovid
 Books at JSTOR
 Brill Ebooks
 Business Expert Press Digital Library
 CAIRN
 Cambridge Companions
 Casalini Libri
 ClinicalKey
 ClinicalKey for Nursing
 Colloquium Digital Library for Life Sciences
 EBL*¹¹
 ebrary*
 EBSCO eBooks*
 E-Duke Book Scholarly Collection
 EEBO: Early English Books Online
 ECCO: Eighteenth Century Collections Online
 Gale Virtual Reference Library
 Greenleaf E-books
 Libreria Garcia Cambeiro
 Loeb Classical Library
 MD Consultant
 NetLibrary
 Netter Reference
 Nursing Consultant
 Oxford Univeristy Press E-books
 Oxford Handbooks Online
 Oxford Scholarship Online
 PEP eBooks
 ProjectMuse Book Collections

¹¹ The products with * provide libraries with multiple acquisition methods, like PDA, EBA, or package-level acquisition. Also, some of these products might provide different collections. I did not specify the acquisition method or specific name of a certain collection mentioned by my interviewees.

ProQuest*
PsychiatryOnline
R2 Digital Library
ScienceDirect E-books
Springer Books
Stat!Ref
Thieme Electronic Book Library
University Press Scholarship Online
Wiley E-books*

Appendix II: Selection Models for print books and e-journals

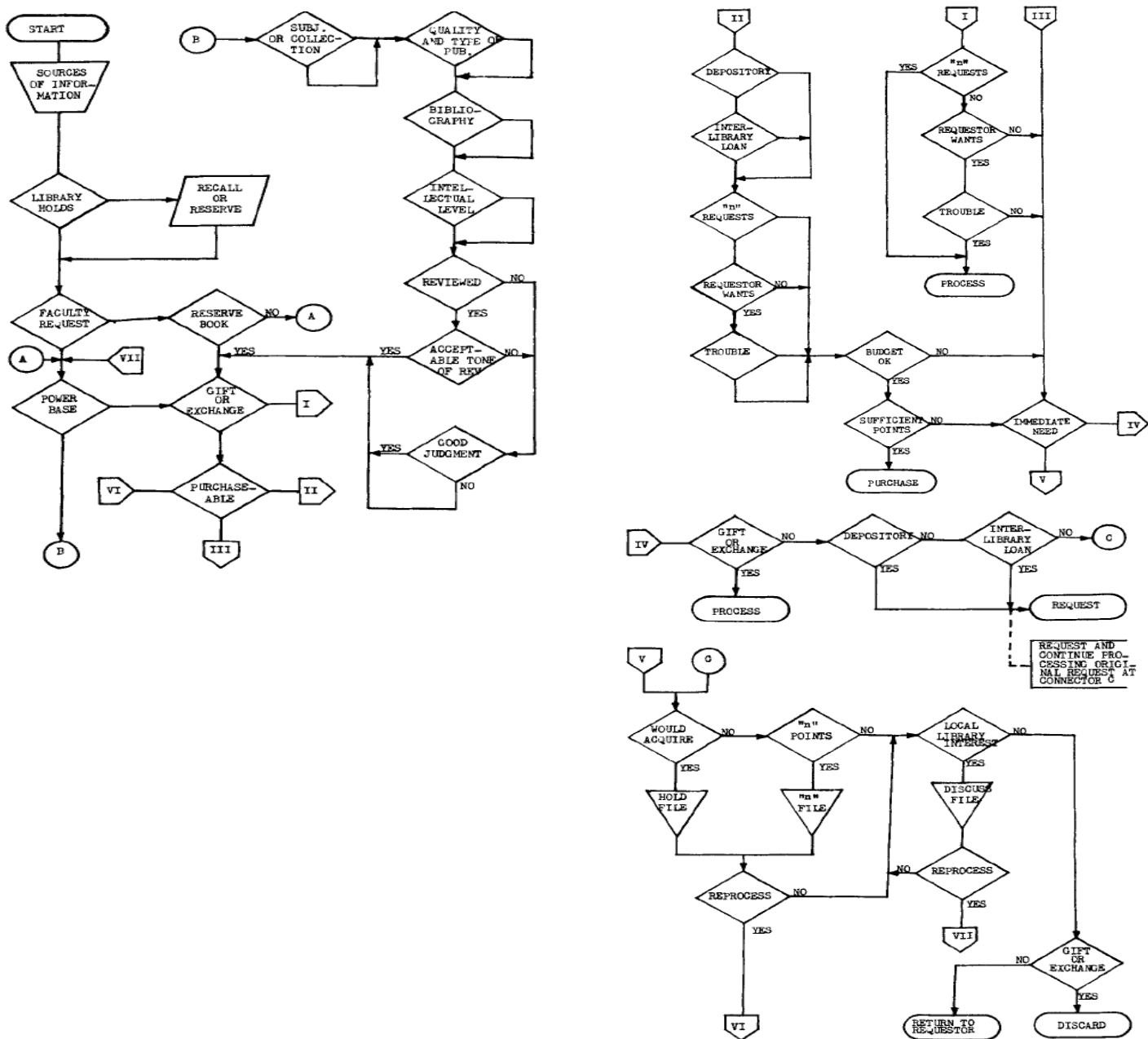


Figure 1: Flow Chart for the Academic Library Acquisitions Decision-making Process. Read “Yes” to right, “No” down, unless indicated otherwise. (DePew, 1975, p. 238)

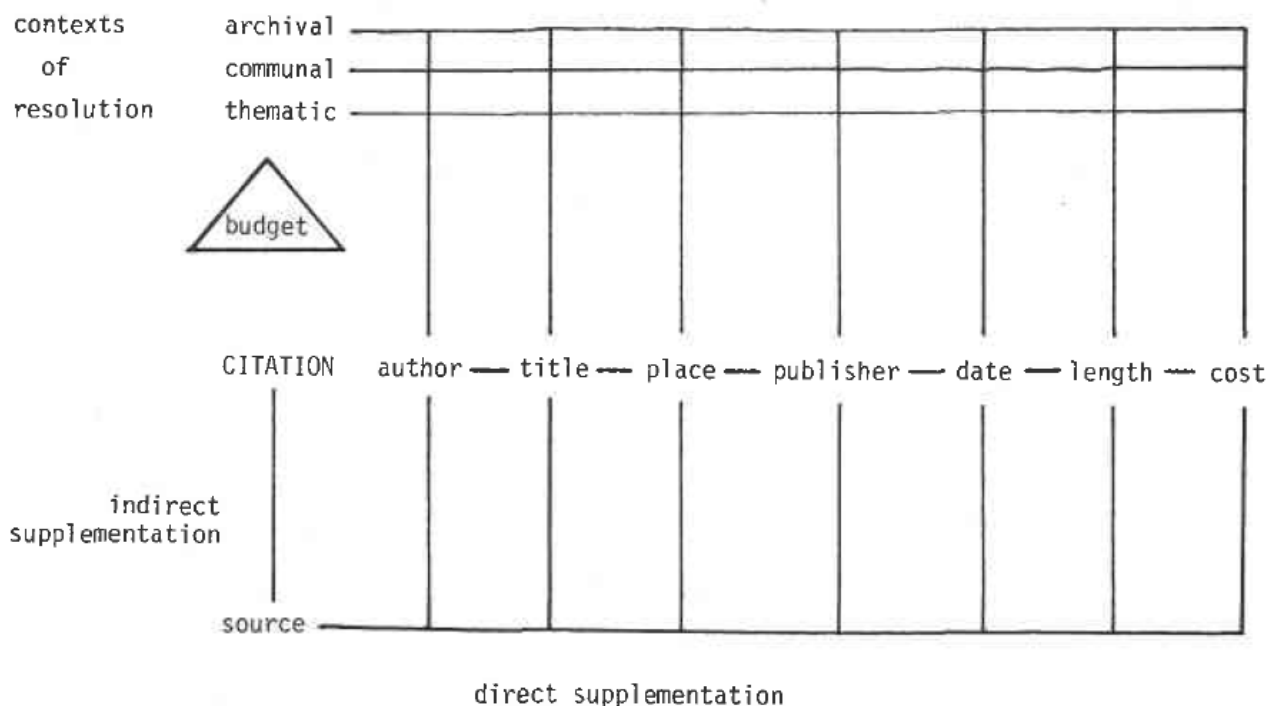


Figure 2: Selection Context (Atkinson, 1984, p. 111)

Table 1: Selection Criteria (Rutledge & Swindler, 1987, p. 129)

	Subject	Intellectual Content	Potential Use	Relation to Collection	Bibliographic Considerations	Language
First Priority	Directly supports programs or institutional emphases Major field of scholarship or inquiry	Key work in field Key author Major critical study Substantial new contribution to learning	Known research or program interest Patron request, based on need Probable need, based on known interest	Central to existing collection Closely related Provides specialized information about a central strength Necessary to intellectual integrity	Distinguished publisher Significant sponsoring body Specialized publisher of high quality Major trade publisher	Major language(s) of topic English and second working language(s) of topic Major foreign language accessible to users
Second Priority	Ancillary to programs Specialized topic Minor field of scholarship or inquiry	General essay Narrowly focused work Narrow intellectual perspective Popular treatment	General interest Title recommended by patron, without specific need Immediate use unlikely	Develops existing collection strength Historic collecting strength	Specialized publisher Published dissertation Popular publisher	Treatment in foreign language of topic not well covered in English Foreign language treatment of local/national issues
Third Priority	Tangential to programs Marginal area of scholarship or inquiry	Raw or unedited material Marginal or polemical work Trivial literature Propaganda	Presents problems of accessibility Infrequent use	Completes serial, series, or set held Very specialized material Assigned to cooperative partner	Research report Unpublished dissertation Working papers Pamphlets Ephemera	Foreign language peripheral to topic or user Treatment in foreign language of material available in English Language accessible to tiny minority of likely users

Table 2: Selection Values (Rutledge & Swindler, 1987, p. 130)

	Subject (30 points)	Intellectual Content (25 points)	Potential Use (20 points)	Relation to Collection (12 points)	Bibliographic Considerations (8 points)	Language (5 points)
First Priority	30	25	20	12	8	5
	29	24	19	11	7	4
	28	23	18	10	6	0
	27	22	17	9	0	0
	26	21	16	0	0	0
	25	20	15	0	0	0
	24	19	14	0	0	0
	23	18	0	0	0	0
	22	17	0	0	0	0
	21	0	0	0	0	0
Second Priority	20	16	13	8	5	3
	19	15	12	7	4	2
	18	14	11	6	3	0
	17	13	10	5	0	0
	16	12	9	0	0	0
	15	11	8	0	0	0
	14	10	7	0	0	0
	13	9	0	0	0	0
	12	0	0	0	0	0
11	0	0	0	0	0	
Third Priority	10	8	6	4	2	1
	9	7	5	3	1	0
	8	6	4	2	0	0
	7	5	3	1	0	0
	6	4	2	0	0	0
	5	3	1	0	0	0
	4	2	0	0	0	0
	3	1	0	0	0	0
	2	0	0	0	0	0
1	0	0	0	0	0	

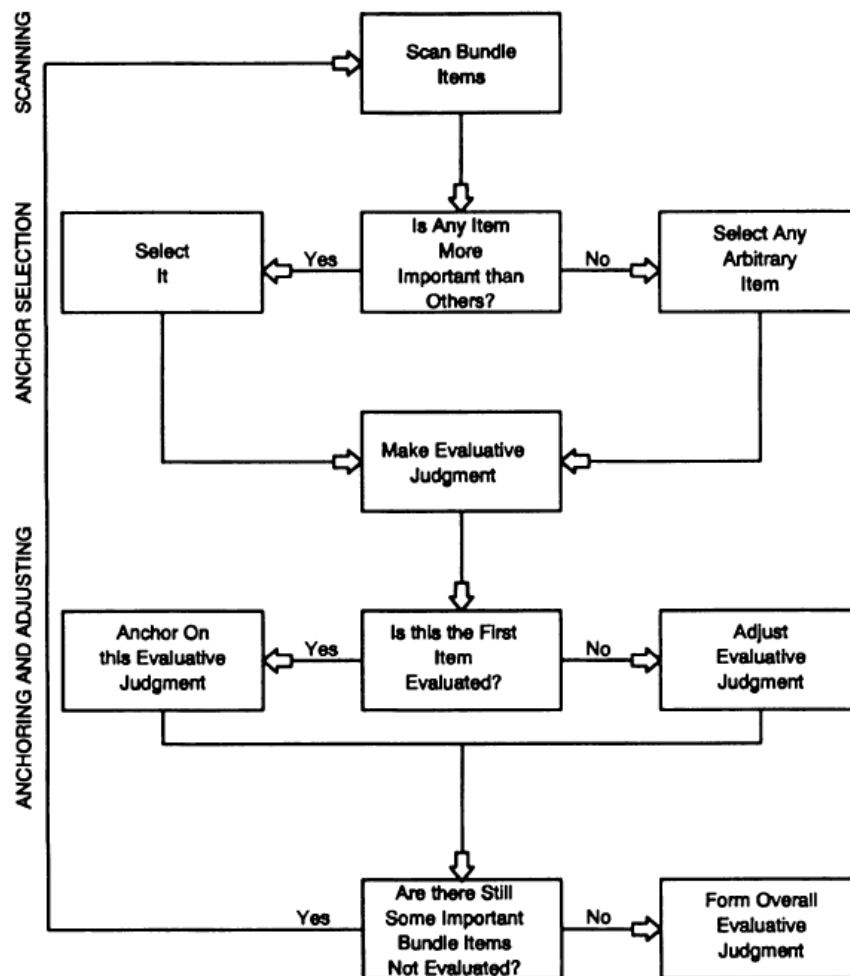


Figure 3: Anchoring and Adjustment Model of Bundle Evaluation (Yadav, 1994, p. 334)

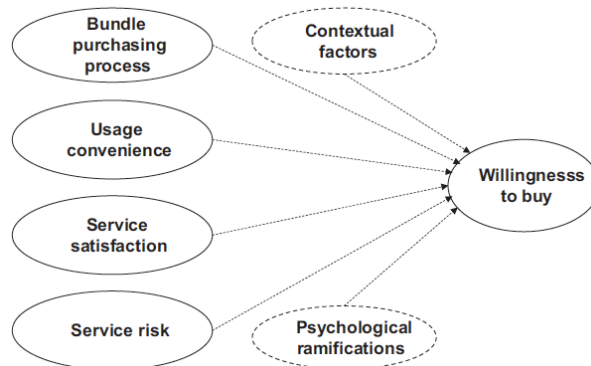


Figure 4: Theoretical model for exploring the bundle purchase process (Mikkonen et al., 2015, p. 645)

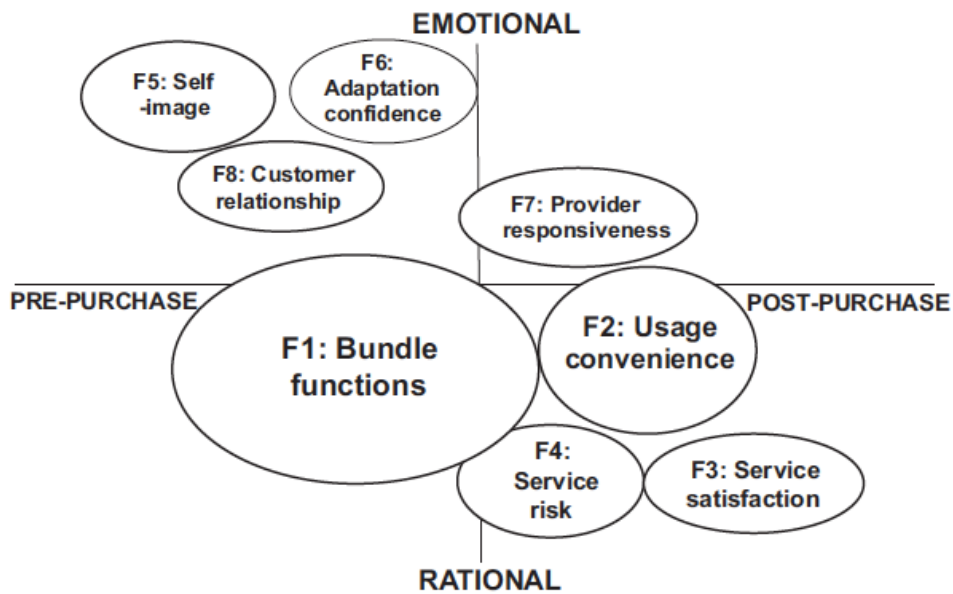


Figure 5: Factors affecting bundle purchasing (Mikkonen et al., 2015, p. 654)

Appendix III: Institutional Review Board Consent Forms



Education and Social/Behavioral Science IRB 5/6/2016

Submission ID number: [2016-0414](#)
Title: E-book product selection practices in U.S. academic libraries
Principal Investigator: KRISTIN R. ESCHENFELDER
Point-of-contact: MEI ZHANG
IRB Staff Reviewer: KAMIE LECLAIR

A designated ED/SBS IRB member conducted an expedited review of the above-referenced initial application. The study was approved by the IRB member for the period of 12 months with the expiration date of 5/5/2017. The study qualified for expedited review pursuant to 45 CFR 46.110 and, if applicable, 21 CFR 56.110 and 38 CFR 16.110 in that the study presents no more than minimal risk and involves:

Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, or quality assurance methodologies

To access the materials approved by the IRB, including any stamped consent forms, recruitment materials and the approved protocol, if applicable, please log in to your ARROW account and view the documents tab in the submission's workspace.

If you requested a HIPAA waiver of authorization, altered authorization and/or partial authorization, please log in to your ARROW account and view the history tab in the submission's workspace for approval details.

Prior to starting research activities, please review the Investigator Responsibilities guidance (<http://go.wisc.edu/m0lovn>) which includes a description of IRB requirements for submitting continuing review progress reports, changes of protocol and reportable events.

Please contact the appropriate IRB office with general questions: Health Sciences IRBs at 608-263-2362 or Education and Social/Behavioral Science IRB at 608-263-2320. For questions related to this submission, contact the assigned staff reviewer.



Education and Social/Behavioral Science IRB

4/28/2017

Submission ID number: [2016-0414-CR001](#)
Title: E-book product selection practices in U.S. academic libraries
Principal Investigator: KRISTIN R ESCHENFELDER
Point-of-contact: MEI ZHANG
IRB Staff Reviewer: KAMIE LECLAIR

A designated ED/SBS IRB member conducted an expedited review of the above-referenced continuing review progress report form. The study was approved by the IRB member for the period of 12 months with the expiration date of 4/27/2018. The study qualified for expedited review pursuant to 45 CFR 46.110 and, if applicable, 21 CFR 56.110 and 38 CFR 16.110:

Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, or quality assurance methodologies

To access the materials approved by the IRB, including any stamped consent forms and recruitment materials, please log in to your ARROW account and view the documents tab in the submission's workspace.

Please review the Investigator Responsibilities guidance (<http://go.wisc.edu/m0lovn>), which includes a description of IRB requirements for submitting continuing review progress reports, changes of protocol and reportable events.

Please contact the appropriate IRB office with general questions: Health Sciences IRBs at 608-263-2362 or Education and Social/Behavioral Science IRB at 608-263-2320. For questions related to this submission, contact the assigned staff reviewer.



Education and Social/Behavioral Science IRB
2/22/2018

Submission ID number: [2016-0414-CR002](#)
Title: E-book product selection practices in U.S. academic libraries
Principal Investigator: KRISTIN R ESCHENFELDER
Point-of-contact: MEI ZHANG
IRB Staff Reviewer: KAMIE LECLAIR

A designated ED/SBS IRB member conducted an expedited review of the above-referenced continuing review progress report form. As part of its review, the IRB determined this study does not require continuing review either under federal regulations or institutional policy, or both. Please note, however, that although this study is not required to undergo continuing review, you must still submit the following to the IRB:

1. Changes of protocol prior to their implementation (unless the change is necessary to eliminate an apparent immediate hazard to subjects)
2. Addition of new study personnel
3. Funding updates
4. Reportable events (unanticipated problems, noncompliance, new information) in accordance with institutional policy
5. Closure report

In addition, please be aware that the type of funding that supports a study or whether the study falls under FDA regulations can affect whether continuing review may be required in future.

The study qualified for expedited review pursuant to 45 CFR 46.110 and, if applicable, 21 CFR 56.110 and 38 CFR 16.110:

Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, or quality assurance methodologies

To access the materials approved by the IRB, including any stamped consent forms and recruitment materials, please log in to your ARROW account and view the documents tab in the submission's workspace.

Please review the Investigator Responsibilities guidance (<https://kb.wisc.edu/images/group99/shared/BSIR>), which includes a description of IRB

Appendix IV: Recruiting Email Template

Subject:

Invitation to participate in a University of Wisconsin-Madison research study on e-book product selection

Text:

Dear __,

I am writing to invite you to participate in a research study of how libraries make e-book product selection decisions. The goal of the study is to improve e-book selection processes and guidelines.

My name is Mei Zhang (Mei is pronounced like "May") and I am a Ph.D. student in the School of Library & Information Studies, University of Wisconsin-Madison, working under my advisor Professor Kristin Eschenfelder. This study is part of my dissertation research.

Participation consists of one one-hour interview that can be conducted face to face or by phone or by Skype. You will receive a \$10 Amazon gift card as thanks for your participation.

I plan to publish the results of the study in a library journal so that the results can help all libraries improve their e-book selection processes.

If you are a librarian working in an academic library or library consortium, and your work involves e-book selection, please participate in the study. To volunteer to participate, please email me at mzhang48@wisc.edu.

I am looking forward to talking to you about e-book selection!

Mei Zhang

Ph.D. student
School of Library & Information Studies
University of Wisconsin-Madison