



**An exploration of the key influences, attitudes and processes involving the
quality management of the bibliographic metadata of e-books in UK higher
education libraries**

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Abstract

Background: The scale and usage of electronic books (e-books) in academic libraries has increased considerably in the last decade. The size of e-book packages means it is unfeasible for titles to be individually catalogued; it is therefore common practice to batch-load bibliographic records into Library Management Systems (LMS). This, however, causes issues with discoverability because of the variable quality of these records that are supplied by vendors.

Aims: The aim of this study is to explore the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries and how this relates to changes occurring in this sector.

Methods: This research takes a qualitative approach that is informed by constructivism. In-depth interviews were undertaken with 31 participants from two different academic library consortia within the UK and six of the e-book and metadata vendors who supply them. The data from these was evaluated through thematic analysis and situational analysis.

Findings: The findings in this research recognise a need for metadata staff to expound the value of the work they do, the thesis explores how this could viably be undertaken by applying the Value Scorecard, an adaption of the Balanced Scorecard that measures the worth of different aspects of libraries. The findings also highlight the differences between HE library consortia and how their size and attitudes towards facilitation can influence the existence of communities of practice for metadata staff. The findings offer a clearer perception of the tensions surrounding what is 'good enough' in terms of metadata and how compromises may be met regarding this, by

programming LMS to triage records to a particular standard, such as essential fields utilised in the template record created by the National Acquisitions Group and the Southern Universities Purchasing Consortium. Automating the quality assurance of e-book records in this way, means that metadata staff could adapt more to the changing stewardship of collections by deploying their skills in other areas such as special collections, scholarly communications and open access.

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Declaration

I, the author, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (www.sheffield.ac.uk/ssid/unfair-means). This work has not been previously been presented for an award at this, or any other, university.

The following publication arising from the thesis is acknowledged:

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https://www.cilip.org.uk/members/group_content_view.asp?group=201298&id=774886

Chapter One: Introduction

This chapter discusses the setting for this research as well as the rationale for conducting the study. After an initial examination of the context of the research, the key terms 'e-book' and 'metadata' are considered. The research aim and objectives are then presented, before the structure of the thesis is explained.

1.1 Context of the research

The utilisation and significance of electronic books (e-books) in academic libraries is increasing (Casselden & Pears, 2019; Frederick, 2015). The digital shift has been occurring in UK higher education libraries for over a decade, but the Covid-19 pandemic has caused this to fast-track with an 8% increase in e-book spending and a 4% drop in the purchasing of print material between 2018/19 and 2021/22. (Society of College, National and University Libraries [SCONUL], 2023). A major factor in the justification for spending on e-books is whether they are value for money in terms of usage, and discoverability is crucial to this (Conyers et al., 2017).¹ David & Thomas (2015) argue that e-books are only actually part of a collection if accurate metadata is linked to them, to enable their discovery and retrieval.

Most academic libraries use MACHine-Readable Cataloging (MARC) records to capture the bibliographic details of e-books in their collections. The current situation with MARC records is discussed in more detail in Section 2.9.1. Using globally recognised standards and authorities including Resource Description and Access (RDA) and Library of Congress Subject Headings (LCSH) within these records,

¹ Also appears in (Edwards, 2022) - see Declaration for full details

assists “users to search discrete elements of data relating to title, author, series, or subject of the resource” (Howarth, 2012, p.764). Cataloguing is defined as the procedure of “creating metadata for resources by describing a resource, choosing name and title access points, conducting subject analysis, assigning subject headings and classification number, and maintaining the system through which the cataloging data is made available” (Joudrey, Taylor, & Miller, 2015, p.540).

Cataloguing e-books supports both their discoverability and consumption, therefore it is standard procedure to load MARC records for them into local Library Management Systems (LMS) as standard practice (Belanger, 2007; David & Thomas, 2015; Martin & Mundle, 2010; Rossmann, Foster, & Babbitt, 2009; Thompson & Sharp, 2009; Vasileiou, Rowley, & Hartley, 2012; Walters, 2013a; Zhang & Jin, 2014).

Problems arise in cataloguing large packages of e-books as constraints on staff numbers and time make this unfeasible (Sapon-White, 2014; Steele & Foote, 2011).² A common practice to negate this issue is to load large batches of vendor supplied bibliographic records into local LMS (Belanger, 2007; Martin, Dzierba, Fields, & Roe, 2011; Mugridge & Edmunds, 2012).³ A study by Mugridge & Edmunds (2012) of 17 North American research libraries found that all of them had loaded at least 100,000 MARC files within a three-year period and more than 70 percent had loaded in excess of 500,000. This survey also found that just over 75% of “respondents said they had rejected sets of bibliographic records because of quality issues” (Mugridge & Edmunds, 2012, p.161). This poses a critical problem with quality as the metadata in these records varies greatly depending on the supplier (Traill, 2013; Walters, 2013a; Zhang & Jin, 2014).⁴ An analysis of 89 batches of bibliographic records at the

² Also appears in (Edwards, 2022) - see Declaration for full details

³ Also appears in (Edwards, 2022) - see Declaration for full details

⁴ Also appears in (Edwards, 2022) - see Declaration for full details

University of Minnesota (Traill, 2013), established that every set had a minimum of one fault and 20% had an issue that prevented their use, such as invalid MARC field tags or faulty URLs. Within the UK a survey of 50 libraries that are part of the Joint Consortia Framework Agreement found that more than a third of them were not satisfied with the records for e-books provided by suppliers within the Framework (Booth, 2020). This raises questions surrounding the quality management procedures implemented by both libraries and suppliers, as well as the relationships between these parties.

Libraries are changing their approach to purchase models for e-books, with Demand Driven Acquisitions (DDA) increasing in popularity (Stone & Heyhoeppullar, 2015; Tuck, 2014). The DDA model works by discovery records for e-book packages being loaded into catalogues, with full records only being added once the title has been purchased (Lu & Chambers, 2013; Wu & Mitchell, 2010). Discovery records are provided by e-book suppliers to enable patrons to find DDA material, but the records do not always contain full bibliographic information, missing elements such as LCSH (Sapon-White, 2014). E-books are only procured once they have been accessed a set number of times by end-users (Anderson, 2011). Draper (2013) stated that technical services were apprehensive about the standard of metadata in the discovery records, but that end-users were able to access the DDA resources within the catalogue without obvious problems. If DDA continues to rise in prevalence, this could lead to significant changes in how libraries handle bibliographic records (Sapon-White, 2014; Wu & Mitchell, 2010).

With advances in digital technology, libraries are witnessing considerable changes to their collections and how they are managed, with moves towards a more networked approach (Dempsey, Malpas, & Lavoie, 2014).⁵ Libraries are now providing more of a licensed collection rather than locally owned materials, which means that resources are more flexible, with packages changing depending on priorities (Dempsey, 2017). In terms of technical services, the shift towards licensing large-scale packages means there is more emphasis on manipulating sizeable batches of metadata rather than creating or enhancing individual records (Cerbo, 2011).

Libraries are realigning to working not as individual institutions, but as part of networks with shared resources and stronger collaborations of skills and workflows (Dempsey, 2013). A rise in library consortia has led to an increase in consortial e-book purchasing and efforts to prevent the duplication of workloads surrounding bibliographic records (Pennell, Sommerville, & Rodriguez, 2013; Young, 2012). Within the UK there are seven main consortia (Society of College, National and University Libraries [SCONUL], 2020) through which academic libraries work together to negotiate purchases of e-book packages (Wynne, 2005).

The changes to the cataloguing environment raise questions about the adaptations that technical services staff have to make. The move towards batch cataloguing requires a different skillset than traditional methods of creating metadata (Wu & Mitchell, 2010; Young, 2012). Cataloguers will not only have to acquire new proficiencies, but also have a constructive approach towards change (Boydston & Leysen, 2014). There appears to a balance to be struck between the efficient, cost-effective processing of records and the desire for them to contain an impeccable quality of

⁵ Also appears in (Edwards, 2022) - see Declaration for full details

metadata (Martin & Mundle, 2010; Rossmann et al., 2009).⁶ There are also differing views between library management and cataloguing departments regarding the value of cataloguing (Cerbo, 2011; Payant, Skeen, & Woolcott, 2017).⁷

Within the UK, Jisc (an organisation which negotiates e-resource licences for its members) is undertaking a review of the current bibliographic metadata ecosystem in an effort to create a more streamlined and efficient model (Jisc, 2019). This ecosystem comprises a complex network of actors including HE libraries, data suppliers, e-book suppliers, publishers, procurement intermediaries and infrastructure providers. Actors within the ecosystem interact in a variety of ways, through day-to-day communication as they negotiate the supply of metadata, but also as part of a number of communities of practice. The structure of the ecosystem is discussed further in Section 2.4 of the literature review.

The Covid-19 pandemic had a significant impact on library collections and the work of metadata staff as enforced closures of libraries because of nationwide lockdowns meant that users had no access to print collections. A stronger focus was therefore placed on making e-books more easily accessible (França, 2021). The pandemic also led to library management adopting a more flexible approach to hybrid and remote working (Hosoi, Reiter, & Zabel, 2021), this has meant that the communities of practice that actors belong to have implemented changes in how they interact. The research for this thesis was conducted during the pandemic; it was therefore influenced by how HE libraries and other actors such as suppliers and intermediaries were reacting to the situation.

⁶ Also appears in (Edwards, 2022) - see Declaration for full details

⁷ Also appears in (Edwards, 2022) - see Declaration for full details

1.2 Key Definitions

Two key terms need to be defined in order to provide a clearer explanation of this research: e-books and metadata. A rationale for these definitions is developed in the literature review in Chapter Two. In this chapter, brief meanings of both aspects are provided.

For the purpose of this study, the following definition of an e-book will be deployed:

- A book like object that is available in a digital environment
- Can be viewed online or downloaded
- Features tools such as in-text searching, bookmarking, highlighting and annotating
- Can be utilised on a variety of mobile and static devices

This research will adopt the International Federation of Library Associations' definition of metadata, which is as follows: "structured information used to describe information resources/objects for a variety of purposes" (IFLA, 2018).

Both of these definitions require further explanation and elaboration but are presented here to provide some clarity at this early stage. Additional discussion surrounding their meanings is offered in Sections 2.1 and 2.2.

1.3 Research aim and research objectives

The aim of this study is to explore the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries and how this relates to changes occurring in this sector.

To accomplish the research aim, this study has the following objectives:

- i) Define the workflows within the bibliographic metadata ecosystem and the roles that different actors play in this.
- ii) Explore the relationships and interactions between key actors with the bibliographic metadata ecosystem in relation to quality.
- iii) Establish the perceptions of key actors regarding the value of cataloguing and bibliographic metadata.
- iv) Determine how changes to library roles and collections affect the workflows and professional identities surrounding e-book metadata.
- v) Ascertain the norms and structures of the communities of practice that metadata staff are involved in.
- vi) Investigate the impact that the Covid-19 pandemic had on the quality management of e-book metadata.

1.4 Structure of the thesis

The thesis comprises seven chapters; the first offers an introduction to the research and stipulates definitions of key terms. The research aim and objectives are then presented.

Chapter Two reviews the existing literature in order to illuminate the research aim and questions. The literature review begins by exploring in more detail the key definitions of e-books and metadata that were specified in Chapter One. This chapter then explores the current e-book market place, issues with suppliers, the processing of MARC records, quality management in academic libraries, developments in cataloguing and current trends for higher education library collections. The research questions and contribution of the research are then presented.

The third chapter explores the research process and puts forwards the philosophical stance of the researcher and how this relates to the research methods and data analysis approaches utilised for this thesis. The research design including sampling, memo-writing and data analysis are described. The chapter also reflects on the trustworthiness of the research and the ethical considerations that were made.

Chapter Four discusses the research findings in six key sections; advocating the value of cataloguing, collaborating and speaking out, maintaining relationships, assessing workflows, striving for quality and changing perceptions of library collections.

The fifth chapter presents the situational analysis maps that were developed as part of the evaluation of the data and offers further explanations of the maps, as well as describing how situational analysis assisted in further developing themes established through data collection, thematic analysis and memo-writing.

Chapter Six offers an in-depth discussion of the findings presented in Chapter Four and compares them with current literature highlighted in Chapter Two. The discussion chapter is divided into four main sections; professional identities and communities of practice, hidden services, notions of sufficing, and de-duplicating and automating workflows.

The seventh and concluding chapter evaluates the extent to which this thesis has answered the six research questions. The trustworthiness of the research is considered through the criteria of credibility, transferability, dependability and confirmability. The chapter describes the practical and theoretical contributions of the research and recommendations for further studies.

1.5 Conclusion

This introduction has outlined the context of the research and provided key definitions of e-books and metadata. The chapter has presented the research aim, objectives, the structure of the thesis was also explained. Chapter Two explores in more detail the conceptions of e-books and metadata as well as reviewing the current literature concerning the quality management of e-book metadata and identifies gaps in existing knowledge that this research aims to contribute to in both practical and theoretical fields. It also present the research questions and the contribution of the research.

Chapter Two: Literature Review

This chapter reviews the relevant literature regarding the quality management of metadata for e-books. In order to find significant studies, an initial literature search plan (Appendix A) was deployed. Several themes developed from the literature (Appendix B) and are presented in this chapter. Firstly, the conception of e-books is considered to provide a clearer understanding of how e-books are defined within the academic community (in section 2.1). The second section (2.2) explores the conception of metadata and its use within libraries. The current e-book marketplace for academic libraries is then discussed (in section 2.3), including usage and purchasing models. Section 2.4 focuses on the current UK bibliographic metadata ecosystem and the actors within. In the next section issues with suppliers are summarised, the views of suppliers and their relationships with libraries are also examined (in section 2.5). The processing of records is detailed in the next section (2.6) with discussion surrounding batch loading, quality management and the value of cataloguing. Section 2.7 considers the benefits of quality management, in particular how it is utilised by library consortia. The theory of Communities of Practice is reviewed in Section 2.8, in particular relation to metadata staff within the LIS sector. Developments in cataloguing are then explored (in 2.9); with specific reference to the move away from the MARC format. The next section (2.10) describes current trends for library collections in terms of more network level approaches. The research questions and contribution of the research are presented in Sections 2.11 and 2.12 respectively. The concluding section (2.13) summarises the chapter, identifies gaps in the current literature and discusses the justification for this research.

2.1 Conceptions of e-books

This section explores the frames of reference in which e-books are regarded, so that a clearer definition of them can be established for the purpose of this study. The Dictionary of Library and Information Science defines the electronic book as “a digital version of a tradition print book designed to be read on a personal computer or e-book reader” (Reitz, 2004, E, para.62). This source also suggests a range of synonyms such as “digital book, e-book, ebook, and online book” (Reitz, 2004, E, para.62).

A definition that is widely recognised within the academic community is “any content that is recognisably ‘book-like’, regardless of size, origin or composition, but excluding serial publications, made available electronically for reference or reading on any device that includes a screen” (Armstrong & Lonsdale, 2011, p.xxv). This explanation provides more detail and makes a clear distinction between e-books and electronic journals, it also gives more options regarding the devices used for readers, rather than limiting it to just personal computers and e-book readers.

Further explorations surrounding definitions of the e-book were made by Vassiliou & Rowley (2008) who found four key themes in the existing definitions:

- e-books are recognised as electronic/digital in their character
- e-books are based on the conventional print book, but this is called into question more because of the rise in born digital content
- a description of the content of e-books including terms such as text and multimedia

- The inclusion of the technologies such as devices used to read e-books, and the advances in interactive features.

After considering these aspects, they recommended the following definition with the first section focusing on the constant qualities and the second part describing the more fluid facets:

(1) An e-book is a digital object with textual and/or other content, which arises as a result of integrating the familiar concept of a book with features that can be provided in an electronic environment.

(2) E-books, typically have in-use features such search and cross reference functions, hypertext links, bookmarks, annotations, highlights, multimedia objects and interactive tools

(Vassiliou & Rowley, 2008, p.363)

This definition avoids explicitly defining particular devices or platforms for accessing e-books as these are elements that are in a constant state of transition in the ever-changing technological environment. The definition of e-books that is being utilised for this research as stated in Chapter One is:

- A book like object that is available in a digital environment
- Can be viewed online or downloaded
- Features tools such as in-text searching, bookmarking, highlighting and annotating
- Can be utilised on a variety of mobile and static devices

2.2 Conceptions of metadata

In addition to e-books, another key term that needs to be considered in more detail is metadata, as metadata is a significant aspect of this research. A common definition of metadata is that is data about data, but it is noted that this description is not particularly useful (Glushko, 2013). Recognised bodies have provided clearer explanations including the National Information Standards Organisation who define it as “structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage an information resource” (Riley, 2017, p.1)

The features of metadata are discussed in more detail by Coyle (2010) who characterises metadata as “constructed, constructive, and actionable” (p.6), meaning that it is built with a particular intention, to resolve a specific issue and that it is helpful, in that a person can take action based on the metadata in order to fulfil their requirements.

Within libraries, metadata is utilised “for any formal scheme of resource description, applying to any type of object, digital or non-digital” (Riley, 2017, p.1). As a rule, metadata generated within the library sector is stored in a different space to the

material linked to it (Frederick, 2016), but is a vital component for the discoverability, retrievability and organisation of resources by both library staff and patrons (Alemu, Stevens & Ross, 2012). Most academic libraries utilise MACHine-Readable Cataloguing (MARC) as the schema for keeping metadata (David & Thomas, 2015; Frederick, 2016). Progress has also been made towards describing electronic resources, with the introduction of Resources Description and Access (RDA) that was fully implemented by the Library of Congress in 2013 (OCLC, 2020). This is a standard used to define the format in which metadata is logged; it outlines regulations for entering information including titles, names and details of publishers. It has been developed to be conducive to storing information in electronic formats, and to represent both print and digital items (Kelley, 2012). Developments in cataloguing and its relationship to the wider semantic web are discussed further in Section 2.9. The definition of metadata that will be deployed for this study as established in Chapter One is: “structured information used to describe information resources/objects for a variety of purposes” (IFLA, 2018).

2.3 The current e-book marketplace for academic libraries

This section explores the current environment in which e-books are purchased and utilised in academic libraries, both globally and within the UK. It firstly examines usage and the key drivers for the uptake of e-books in this setting. Consortial purchasing and the present situation in the UK are then discussed. Finally, the types of suppliers and purchasing models are considered.

2.3.1 Usage in academic libraries

Within the UK many academic libraries are adopting a digital first purchasing policy (Baxter et al., 2021). In the 2021/22 academic year 20% of spending on resources in higher education libraries was on e-books, compared to 6.1% spent on print books (SCONUL, 2023). As stated in Section 1.1, the Covid-19 pandemic has accelerated the digital shift, with 84% of the Southern Universities Purchasing Consortium's (SUPC) framework agreement expenditure being on digital resources in 20/21, in comparison to 60% in the previous academic year (Brine & Knight, 2021). There are a variety of views on the future of e-books, Wells & Sallenbach (2015) predicted that the amount of e-books in academic library collections will supersede that of print material. There are expectations that the number of e-books will increase, as will their usage, and that electronic and print books will continue to co-exist but that e-books are more prevalent in certain topics such as Medicine and Technology (Vasileiou, Rowley, & Hartley, 2012a; Yuan, Van Ballegooie, & Robertson, 2018). An OCLC study of UK library staff indicated that 62% deemed the provision of e-books and e-collections to be their main concern (OCLC, 2012).

The key drivers for adopting e-books include increasing demands on library space, a rise in the number of remote learners and the demand for 24/7 instant access to resources (Frederick, 2015; Hodges, Preston, & Hamilton, 2010; LaMagna, Hartman-Caverly, & Danowitz, 2015). E-books are considered particularly beneficial for their interactive properties that provide users with more functions than their print equivalents, such as bookmarking and in-text search (Vassiliou & Rowley, 2008). An additional consideration is the financial savings regarding maintenance as e-books reduce issues of resources being damaged or lost (Renner, 2007). It is recognised that e-books are not without their issues in terms of maintenance, particularly

regarding the stability of URLs which are crucial to their discovery (Mugridge & Edmunds, 2012; Vasileiou, Rowley, & Hartley, 2013; Zhao & Zhao, 2010).

With the launch of COUNTER Release 5 at the beginning of 2019 to measure usage of e-books, it is impossible to assess statistics from the years preceding this. However, from 2019-20 to 2021-22 there was a rise of more than 30% in the amount of unique title requests per FTE student in UK higher education libraries. Of some significance is fewer e-book suppliers were delivering usage data during COUNTER Release 5's primary year (SCONUL, 2023). It is suggested that further measures could be implemented to promote e-books to users but that many library staff consider publicity to be a lesser concern than providing resources (Lonsdale & Armstrong, 2010). There is also evidence that students see the library catalogue as the main promotional tool and the only channel through which they are made aware of e-books (Lonsdale & Armstrong, 2010). Research by Yuan et al., (2018) emphasises the value of metadata in library catalogues in encouraging the usage of e-books.

A significant challenge for academic libraries is the availability of titles in digital format as publishers do not always release e-books simultaneously with the print version, this is because of concerns that they may lose profit (Hodges et al., 2010; Walters, 2013b). Another issue highlighted by Czechowski (2011) is that individual titles are often unavailable to buy separately and are instead part of a collection that may be out of a library's price range. The price of e-books needs to be taken in to consideration, the literature shows that the average cost of an e-book is substantially more than print version of the same title (Bailey, Scott, & Best, 2015; Rao, Tripathi, & Kumar, 2016). It is notable that much of the literature is from the viewpoint of

academic libraries and therefore does not fully take into account the rationale of publishers surrounding the pricing and availability of e-books. Publishers are often deterred from contributing to research articles because of their requirement to protect their commercial interests. The small amount of literature resulting from suppliers participating in forums is discussed further in Section 2.5.5.

2.3.2 Consortial purchasing

A strategy implemented to alleviate the issue of expensive resources is consortial purchasing. The global rise in the number of academic library consortia was partly a response to deal with the increasing cost of journals (Friend, 2002). As technology has progressed, consortia have adapted to include e-resources in their purchasing models (Polanka, 2011; Swindler, 2016; Tuck, 2014; Walters, 2013a; Wynne, 2005). The benefits of purchasing e-books as a consortium are that pooling budgets means more resources can be obtained, and certain tasks such as cataloguing can be consolidated which leads to a more efficient use of finances and workloads for all members (Flynn & Kilkenny, 2017; Martin et al., 2011; Polanka, 2011). Regional library consortia are able to strengthen their negotiating position by joining forces, but each individual library has to purchase the e-book package separately once a consortium deal has been reached with a supplier (Polanka, 2011)⁹.

Within the UK, there are seven main consortia for academic libraries: the M25 Consortium, the Mercian Collaboration, North East and Yorkshire Academic Libraries Purchasing Consortium, North West Academic Libraries, the Scottish Confederation of University and Research Libraries, South West Higher Education Libraries and the

⁹ Also appears in (Edwards, 2022) - see Declaration for full details

Wales Higher Education Libraries Forum (SCONUL, 2020)¹⁰. There are also initiatives that have been created at a university level but see some collaboration between libraries, such as the White Rose University Consortium (White Rose Consortium, 2019). Additionally, there are six regional university procurement consortia that have subsidiaries for negotiating purchases for libraries (Ball & Pye, 2000; Petford, 2013). For instance, the London Universities Purchasing Consortium currently has agreements with several e-book suppliers including ProQuest, EBSCO and Blackwell (London Universities Purchasing Consortium [LUPC], 2017). The UK also has a national organisation called Jisc that negotiates licences of e-resources for institutions that have membership, of which there are more than six hundred (Earney, 2011). The shift towards a more aggregated approach to purchasing has also seen changes to how bibliographic records are processed with more collaboration to avoid duplication of work (Mugridge, 2013; Young, 2012). The consortial cataloguing of e-books is discussed in more detail in Section 2.7.3.

2.3.3 E-book suppliers and purchasing models

The current landscape for e-book acquisitions is varied with a range of companies offering services. Walters (2013b), identifies four types of suppliers that university libraries purchase e-books from:

- Publishers such as Wiley, Routledge, and Springer-Palgrave that supply e-book versions of their monographs.
- Aggregators that specialise in certain topics and offer collections to libraries

¹⁰ Also appears in (Edwards, 2022) - see Declaration for full details

- Large aggregators including ProQuest, EBSCO and Browns that provide singular e-books or packages on a variety of subjects from several publishers.

Library vendors such as Coutts and Blackwell that supply resources directly from publishers and through aggregators in print and electronic versions.

A 2013 report found that globally, there were fifty-one different platforms for which libraries could purchase e-books (Roncevic, 2013). As well as the plethora of options in terms of e-book suppliers, there is also a variety of purchasing models available.

The main three available are:

- Purchase model – libraries buy individual e-books straight from suppliers but need to pay annually for access
- Subscription model – libraries pay suppliers annually in order to utilise a particular collection
- Rental model – libraries pay a discounted rate for accessing titles for a limited time

(Vasileiou, Hartley, & Rowley, 2009; Walters, 2013b)

These models are not without their pitfalls; library staff are apprehensive about the subscription model as it leads to purchasing titles in a collection that are superfluous to the needs of the institution. There are also concerns about pricing in the purchase model, with one study finding that e-books bought using this format are more than 40% more expensive than their physical counterparts (Walters, 2013a).

As discussed in Chapter One, an additional option that is increasing in popularity is the Demand Driven Acquisition (DDA) model (Dempsey, Malpas, & Lavoie, 2014; Stone & Heyhoeppullar, 2015; Tuck, 2014; Woodward & Henderson, 2014). The DDA model functions by making e-books available to users by loading records into the library catalogue, but titles are only procured once they have been utilised a set amount of times (Anderson, 2011; Sharp & Thompson, 2010). The DDA model has become more prevalent in the last decade with several studies suggesting that usage is higher from patron chosen titles than those selected by librarians (Fischer, Wright, Clatanoff, Barton, & Shreeves, 2012; Price & McDonald, 2012; Schroeder, 2012; Stone & Heyhoeppullar, 2015). How the different models affect the processing of bibliographic records and the monitoring of metadata is considered later in this chapter.

2.4 The UK bibliographic metadata ecosystem

In addition to models for the purchasing of e-books, there is the current landscape for the creation, licensing, purchasing and sharing of metadata. This section explores the bibliographic metadata ecosystem within the UK which Jisc is currently working to improve in order to reduce the amount of duplicated effort that occurs in correcting and enhancing records, by making them more easily sharable (Jisc, 2019; Research Consulting, 2020). As part of this process, the following diagram was created to indicate where metadata is being exchanged and financial transactions are occurring:

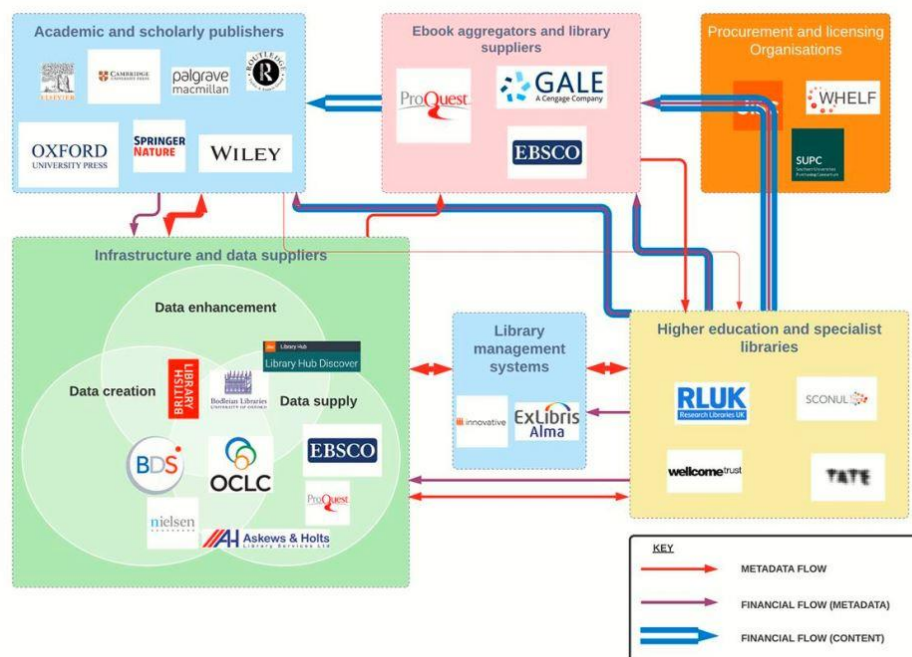


Figure 1: UK Bibliographic Metadata Marketplace (Research Consulting, 2020, p.10)

The diagram consists of six key elements: infrastructure and data suppliers, LMS, HE and specialist libraries, procurement and licensing organisations, e-book aggregators and library suppliers, and academic and scholarly publishers. Metadata flows (signified by the red arrows) between various actors and often changes are made to it as it passes around the ecosystem. There are also the financial transactions between actors for metadata and content.

The existing bibliographic metadata ecosystem is messy with metadata flowing between the various actors and frequently the previous corrections and enrichments of metadata are being removed from it (Research Consulting, 2020). Publishers create the initial metadata in ONIX (Online Information eXchange) format which is an XML standard used by publishers and retailers, the metadata is then purchased with the corresponding e-book titles, by metadata suppliers and e-book aggregators who convert it into MARC records that are suitable for libraries. Some e-book aggregators

purchase MARC records from metadata suppliers rather than converting the ONIX standard themselves. Actors who create the MARC records often restrict their usage by licensing them, which means they cannot be re-shared in Jisc's National Bibliographic Knowledgebase (NBK), a hub which allows Jisc members to share and re-use MARC records (Cousins, 2019; Jisc, 2019, 2023). There are also the financial transactions for content and metadata take place between HE libraries and suppliers either directly or through consortia.

2.5 Issues with suppliers

As the majority of suppliers provide MARC records as part of the service when libraries purchase e-books either individually or as part of a package (Vasileiou et al., 2009), this section discusses their quality and the issues involved with loading them into LMS. Specific problems with metadata are then explored in more detail. The reputations of suppliers are then examined, as well as their relationships with libraries. Lastly, literature concerning the views of suppliers is discussed.

2.5.1 Batch loading and quality management

The issues of the quality management of vendor supplied bibliographic records, raise questions of whether they are creating extra costs to library staffing because of the effort required to correct them (Martin & Mundle, 2010; Rossmann et al., 2009). As e-books are more frequently procured as a part of large packages, batch loading bibliographic records makes the process more efficient and allows quicker access (Van Kleeck et al., 2017). Libraries are opting to load records then improve them in retrospect, unless there are critical errors. The general assumption with minor faults

is that it is better to have the e-books accessible in catalogues rather than not at all (Beall, 2009; Booth, 2020; Traill, 2013; Van Kleeck et al., 2016)¹¹. However, the move away from cataloguing individual records raises issues of quality management and concerns that the bibliographic metadata provided by e-book suppliers as part of packages is not always complete or is incorrect. Concerns regarding metadata quality that are frequently highlighted in the literature include missing bibliographic details, eISBNs being either absent or erroneous, omitted LCSH, incorrect or out of date LCSH, subject authorities designed by publishers that are non-standard, information that is misspelt or punctuated incorrectly, and fields completed in the wrong language (David & Thomas, 2015; Flynn & Kilkenny, 2017; Mugridge & Edmunds, 2012; Preston, 2011; Rossmann et al., 2009; Zhang & Jin, 2014; Zhao & Zhao, 2010). This causes e-books to be less discoverable within OPACs or other discovery services and reduces their browsability (Kemperman et al., 2014).

2.5.2 Specific issues with metadata

The eISBN is used to identify titles that are in electronic format rather than the ISBN that is for used for print format (NISO/UKSG KBART Working Group, 2010). The eISBN is the element of a record that should act as a universal identifier for e-books, but these tend to vary depending on the supplier (Conyers et al., 2017; Vasileiou et al., 2013; Wu & Mitchell, 2010). This causes issues for libraries when they are attempting to prevent repeat procurements of an e-book (Conyers et al., 2017). Since 2009, the Program for Cooperative Cataloguing (PCC) has advocated for provider neutral records, so that a particular e-book title should have one record and eISBN irrespective of supplier. This was partially to negate problems with purchasing duplicate titles, but also to condense the amount of records within the catalogue for

¹¹ Also appears in (Edwards, 2022) - see Declaration for full details

the same e-book (Culbertson & Hawkins, 2013; Van Kleeck et al., 2017; Wu & Mitchell, 2010). Despite this step towards a more consistent approach, not all suppliers are adhering to the guidelines (Mugridge & Edmunds, 2012; Wu & Mitchell, 2010). There are also issues with the ISBN for the print equivalent being provided instead of or in addition to the eISBN in the MARC records for e-books, this can cause problems when loading them into Library Management Systems as there is a possibility of them overwriting the record for the print book (Cope, Bunting, & Vause, 2016).

There are two further elements in bibliographic records that hinder librarians in terms of avoiding the duplication stock; these are the title and the publication date. Titles of the same e-book can differ depending on supplier, with some using pre-publication information (Lu & Chambers, 2013; Wu & Mitchell, 2010). This makes it more difficult for library staff to identify whether an e-book is already held in the collection. The publication date is also not consistent between suppliers, with some using the year of digitalisation rather than the date that the title was first published. This heightens the risk of accidental duplication in collections but also means libraries might be purchasing outdated content (Chen, Kim, & Montgomery, 2016; Proctor, 2013). Gates & Glazier (2019) question what level of duplication is acceptable and whether it is really a concern that library users can select the same title through a variety of providers in the catalogue.

Retrievability and discoverability can be also be obstructed by the issues discussed above if end-users are searching for a particular title or publication year. The literature also points to subject headings being a key factor in whether end-users can find relevant resources in the library catalogue (Preston, 2011). A study of keyword searches by Gross, Taylor, & Joudrey (2015) found that more than a quarter of results were lost if there was an absence of subject headings in bibliographic

records. Suppliers are not always including subject headings in the metadata they provide, or are creating their own which are not compliant with Library of Congress standards (Mugridge & Edmunds, 2012; Rossmann et al., 2009; Traill, 2013). There are also concerns that not all vendors are able to include OCLC numbers in the records they provide as they are not necessarily OCLC members and this element is considered important for tagging resources to make them discoverable in WorldCAT (Martin & Mundle, 2010; Sapon-White, 2014). WorldCAT is the vastest collection of records and library assets data (Coyle, 2010), it is regarded as a vital source through which libraries can make others aware of their holdings. The literature also points to the practice of WorldCAT members sending their improved records to OCLC so that others in the community can benefit, this measure suggests a more collaborative approach to cataloguing on a wider scale than regional consortia (Flynn & Kilkenny, 2017; Lu & Chambers, 2013).

Whilst some errors in the metadata can cause setbacks with retrieving and discovering e-books, other mistakes are more critical to the point where access is lost altogether until the problem is rectified. A crucial component for access is the URL, without it, the e-book cannot be utilised. The literature highlights a lack of consistency with the stability of URLs provided in MARC records by suppliers (Mugridge & Edmunds, 2012; Vasileiou et al., 2013; Zhao & Zhao, 2010). Tools are available to enable cataloguers to efficiently check links within batches of records before loading them into Library Management Systems, such as E-Link Checker, which has been developed for use with ExLibris (Zou, 2018) and MarcEdit which was created by Terry Reese for use by librarians around the world (University of Illinois, 2019). However, this does not negate the fact that the URLs are problematic and that suppliers should be checking them before releasing them to libraries. It is reported that some suppliers are sending records for titles that libraries have not purchased

(Flynn & Kilkenny, 2017), this causes issues if they appear in the library catalogue as patrons are not able to access them.

2.5.3 Reputations of suppliers

Some vendors, such as Coutts have a strong reputation for providing high quality bibliographic records (Taylor, 2007; Zhao & Zhao, 2010). Others, such as Springer, decided to adapt their bibliographic records to use internationally recognised OCLC metadata, instead of their own in-house standards. Springer reported a rise in library readership of their e-books as a result of providing improved records (Minčić-Obradovic, 2011; Sapon-White, 2014).

Other companies are not viewed as favourably in terms of the metadata they supply, some are noted for providing incorrect name headings, unsuitable subject authorities and occasionally titles that are erroneous because they are those that were used prior to publication (Sapon-White, 2014).

Not all vendors create bibliographic records in-house and therefore may not have full influence over the standard of the metadata within them (David & Thomas, 2015). This does not always have a detrimental effect, for instance Morgan and Claypool outsourced the creation of their metadata to an enterprise with qualified staff and therefore have records of high quality that meet recognised criteria (Sapon-White, 2014).

2.5.4 Relationships with suppliers

There are recommendations that libraries should keep track of errors in vendor supplied records and send regular feedback and that the expense that libraries face in correcting these records should be taken into account when agreeing the price of e-book packages with suppliers (David & Thomas, 2015; Flynn & Kilkenny, 2017; Van Kleeck et al., 2016; Vasileiou et al., 2012b). One form of monitoring the quality of records is creating a checklist that can provide measurable evidence of the metadata being delivered and of the responses and assistance from suppliers (Panchyshyn, 2013). It is accepted that in order to negotiate the quality of the metadata with suppliers, it is crucial to form and sustain strong, professional rapports with them (Flynn & Kilkenny, 2017). However, Traill (2013) argues that suppliers may not be concerned about refining the quality of their records to suit their customers, and library staff are inconsistent in expressing their requirements. It is suggested that libraries should obtain a test batch of records to assess their quality prior to procuring e-book packages, as suppliers are keener to make corrections to the metadata as part of pre-sale negotiations (Beisler & Kurt, 2012; Zhang & Jin, 2014). An issue raised in a survey of UK academic libraries was that contacts they liaise with at suppliers do not have technical knowledge of cataloguing and this makes reporting errors more problematic (Booth, 2020).

It is recognised that progress is being made separately by libraries and suppliers to improve the quality of metadata, but there are calls for stronger cooperation amongst all parties involved (Bascones & Staniforth, 2018; Bull & Quimby, 2016; Luther, 2009; Wood, Harris, Shetler, & Wolf, 2009). It is suggested that national bodies such as Jisc or SCONUL could facilitate a collaborative space where different factions could

share ideas and work together to resolve known issues (Bascones & Staniforth, 2018).¹² Jisc began a consultation on the bibliographic metadata ecosystem in 2019, with the anticipated outcome of developing an improved infrastructure between suppliers and libraries in which it is easier to obtain and then re-distribute corrected records by making licences less restrictive (Jisc, 2019).¹³ In North America, there has been collaboration facilitated by OCLC between a small number of academic librarians and suppliers to identify key issues surrounding the quality of metadata and work towards solutions (Ruschoff et al., 2016). The literature surrounding this recognises that it is a complex issue with the various actors within the ecosystem having different needs and perspectives. Whilst HE libraries and consortia they belong to advocate for open access metadata, the suppliers and creators of metadata have expressed concerns that this is not a financially viable option.

2.5.5 Views of suppliers

A number of suppliers state that they are implementing measures to improve the quality of the metadata that they provide. Wiley and ProQuest for instance both employ qualified cataloguing staff to produce bibliographic records and have conducted reviews of how metadata is created, in order to enhance standards (Flynn, 2013; Ruschoff et al., 2016). From their assessment of their cataloguing protocol, ProQuest have identified several reasons for errors including typing mistakes and a misunderstanding of standards. They deploy a system of a second employee double checking records in order to minimise issues, and although this action is expensive it has proved to be valuable (Meekhof & Bailey, 2017). JSTOR has developed a

¹² Also appears in (Edwards, 2022) - see Declaration for full details

¹³ Also appears in (Edwards, 2022) - see Declaration for full details

method for identifying records where ISBNs are mistakenly being used instead of eISBNs and modifying them prior to distribution (Ruschoff et al., 2016).

As previously discussed in this chapter, libraries that are members of WorldCat prefer to have OCLC control numbers already in the records but some suppliers are not able to provide this as they are not members of OCLC. Other suppliers such as Palgrave and Springer work with OCLC and are therefore able to include this element in their records (Jones, 2011; Minčić-Obradovic, 2011).

One supplier recognised the importance of implementing standards, but expressed frustration that different libraries have varying standards that are problematic to cater for concurrently (Jones, 2011). Bull & Quimby (2016) state that regardless of the requirements of individual libraries, metadata should at least meet an acceptable benchmark, which could be agreed through RLUK or a similar body to encourage more joined-up thinking regarding quality.

Suppliers also expressed concerns about other challenges they faced such of adapting workflows to incorporate e-books and ensuring that models for selling them are financially viable (Herman, 2015). An opinion articulated was that whilst revenue has not increased, processing expenditure has grown two-fold because of the need to accommodate for both print and digital models (Lippincott et al., 2012).

2.6 The processing of MARC records

As previously established in Section 1.1, libraries are increasingly relying on batch loading MARC records. This section focuses on the advantages and disadvantages of batch loading in terms of quality management. Issues surrounding the value of cataloguing are also considered, with questions being raised about the need to have perfect records.

2.6.1 Batch loading records

The key benefits of batch loading are that less staff time needs to be dedicated to it and it allows e-book packages to be more easily kept up to date. The main drawback is that it does not allow for the same quality monitoring that occurs with more traditional methods of cataloguing (Van Kleeck et al., 2017). The literature also highlights the need for staff to have a different skillset from those necessary for dealing with individual records (Wu & Mitchell, 2010; Young, 2012). It is recognised that the different methods of purchasing e-books entail a variety of ways to process them. Individual purchases involve loading single records into the catalogue and a better opportunity to check the quality of the metadata (Wu & Mitchell, 2010). The majority of packages are batch loaded as collections that can contain thousands of e-books and their records, cannot feasibly be handled individually by technical services (Sapon-White, 2014). Treatment of DDA collections requires a combination of the two approaches as initial 'discovery' records are batch loaded into the catalogue, but then titles are purchased individually once they have been accessed a set amount of times (Draper, 2013; Lu & Chambers, 2013; Wu & Mitchell, 2010). Sapon-White (2014) discusses the provisional nature of DDA records and the procedure of not

editing details such as subject headings until an e-book is officially acquired. The literature highlights that technical services staff at some academic libraries expressed apprehension about the quality of initial DDA records possibly impeding discovery but that patrons were in fact easily able to access the titles through using keyword searching (Draper, 2013; Macicak & Schell, 2009). The rise in prevalence of DDA could have implications for how both library staff and suppliers process bibliographic records and monitor metadata quality.

2.6.2 Quality management of records

Quality management within cataloguing involves two key aspects; quality assurance, which emphasises the importance of records as they arrive and checking for inaccuracies before they are loaded into the LMS, and quality control which is concerned with adapting records after they have been loaded (Van Kleeck et al., 2016). In terms of quality assurance, measures being implemented include using cataloguers to review the quality of key elements of records, such as authorities and URLs (Chen et al., 2016; David & Thomas, 2015), or adopting a target standard that records are required to meet (Panchyshyn, 2013). Many libraries are also using tools such as MarcEdit to manage the workload of monitoring and correcting vendor-supplied records (Flynn & Kilkenney, 2017; Hodge, Manoff, & Watson, 2013; Minčić-Obradovic, 2011; Mugridge & Edmunds, 2012). Quality control methods include selecting a small number of records to check the metadata and correcting records when end-users report errors (David & Thomas, 2015; Van Kleeck et al., 2016). The large number of e-books in collections and constraints on staff numbers mean that libraries are limited in the amount of quality assurance that can be carried out, there are also pressures to provide timely access to resources (Turner, 2016; Van Kleeck et al., 2017). A survey of North American academic libraries by Mugridge &

Edmunds (2012), showed that more than three quarters believed that utilising records provided by suppliers had reduced their standards for e-book metadata.

The Library of Congress's Program for Cooperative Cataloging developed a BIBCO (Bibliographic Cooperative Program) Standard Record that set a benchmark of required metadata for meeting the needs of end-users (Program for Cooperative Cataloging [PCC], 2020). There was optimism within the library community that this would introduce more consistency, but also concerns that some suppliers were not conforming to these procedures (Wu & Mitchell, 2010). These measures do however provide a standard that cataloguers can work towards if they are carrying out quality assurance prior to releasing records into an LMS.

A study of the meaning of quality for cataloguing staff in North American academic libraries found that their explanations featured four key criteria:

- the specifics of records including the precision of metadata and the degree of mistakes,
- how closely benchmarks are followed,
- the efficiency of workflows,
- the influence of cataloguing on discoverability and access for patrons

(Snow, 2011)

This highlights the difficult balance that needs to be considered between providing quality records and processing them in a timely manner. Questions are raised about the justification of the price of having flawless records in the catalogue and whether

delivering speedier access to resources means compromising on quality (Martin & Mundle, 2010; Rossmann et al., 2009). A significant amount of the literature surrounding this has been written by authors from North American academic libraries, the views of the LIS sector within the UK may need to be explored in more detail as some of the consortia in the USA such as OhioLINK, catalogue their resources cooperatively whereas in the UK this is less prevalent, this is discussed further in Section 2.7.3.

The literature highlights a tension between metadata staff and senior managers, with the latter being of the opinion that there does not need to be fullness of description or flawless records and that end-users are indifferent towards supplementary details when they are searching for resources (Medeiros, 2011).

There is criticism from senior managers about metadata staff working on vendor-supplier records and adding extra information to them, that in the view of senior managers is not needed (Medeiros, 2011). There is also conflict regarding the meticulousness of metadata staff, who are traditionally labelled as being secluded and adverse to change (Banush, 2008; Brice & Shanley-Roberts, 2009; Payant et al., 2017; Weng & Ackerman, 2017).

2.6.3 Measuring the value of cataloguing

With the increase of the practice of batch loading records and changes to the ways in which technical services work, questions are being asked about the value of cataloguing with some discrepancy between the views of cataloguers and library management (Cerbo, 2011; Payant et al., 2017). The following sub-section highlights the different ways that the value of cataloguing is being measured.

Financial constraints and advances in technology have led to many libraries restructuring their cataloguing departments with outdated procedures being revised (Davis, 2016). As cataloguers are not front of house, the tasks they perform are at times overlooked as superfluous and something that can be contracted out (Payant et al., 2017). Another measure that has been prevalent in technical services is for para-professionals to be undertaking the work of qualified librarians (Cerbo, 2011). The commercialisation of universities means that there is more pressure on libraries to highlight and measure their impact. For cataloguing departments this means the ability to link access to resources, with both student and faculty accomplishment (Borie, Macdonald, & Sze, 2015). A key indicator in the review of the worth of e-book collections is the amount of times resources have been used. If usage is low, this reduces the value for money of the package. In order for this to be accurately monitored, users need to be able to locate and access e-books without any issues (Kemperman et al., 2014). A JISC study highlighted the significance of cataloguing as students felt they only found out about e-books by browsing the library catalogue (Lonsdale & Armstrong, 2010).

The Association of Library Collections and Technical Services supported a taskforce to explore recommendations for the measure of cost/value of technical services, this resulted a number of suggestions including ease of discovery and usage as well as speed of availability of resources (Stalberg & Cronin, 2011). De Fino & Wang (2012) surveyed North American cataloguing staff on how value was measured; the majority stated the main method was to collate statistics on the volume of resources processed, but the authors acknowledged that this did not reflect the effect of cataloguing on end-users. The University of Virginia Library modified and applied a version of the Balanced Scorecard in order to gain a better understanding of their performance. This model considers four different strands:

- customer
- internal processes
- finance
- learning and growth

(Kaplan & Norton, 2005; White, 2013)

Using the measurement and metrics of this tool, the University of Virginia Library was able to identify key areas for improvement including how quickly requested books were being acquired and processed (White, 2013). It is suggested that the model could be further adapted for technical services in order to assess value (De Fino & Wang, 2012). The Balanced Scorecard is also utilised more widely by academic libraries to assess all departments within their remit (see Section 2.6.1)

A further adaption of the Balanced Scorecard that has been implemented at the University of York Library is the Value Scorecard, which as the name suggests focuses more on value than on strategy. The four key elements of this method of assessment are:

- relationships;
- capital;
- virtue and
- momentum

(Town, 2015, p.236)

Relational capital considers the connections that a library has within and outside the university, evaluating such elements as relationships with end-users and other key actors such as suppliers. Capital examines the assets in the library including tangible assets such as collections and intangible assets, incorporating human capital as well as meta-assets such as LMS and Discovery layers. Virtue relates to the benefits that a library provides such as supporting research and learning. Momentum measures the innovative practices of the library and how adaptive it is to change, as well as its ability to prepare for the future (Town & Kyrillidou, 2013).

It may be possible to apply this model to measure the value of cataloguing departments. The relationship factor could consider the professional links with suppliers, and with other actors within the library setting, including staff in other departments. The section on capital could measure the human capital, regarding staff capacity and the ability to undertake innovation. The aspect of virtue could explore evidence of the impact that technical services has on end-user satisfaction, in terms of access to resources that they require. The measure of momentum could

examine the innovative practices that have been introduced in order to adjust to the changing environment of bibliographic control (Town & Kyrillidou, 2013; Town, 2015).

2.6.3.1 Invisibility of infrastructure

As metadata work is conducted out of sight from end-users and is not always understood by library colleagues in other departments, it is often underestimated and goes unnoticed unless there is an issue with finding resources (Payant et al., 2017). When senior managers in HE libraries are making key decisions regarding shrinking budgets and streamlining, the work being carried out by metadata staff and its context within the library service are not always fully valued (Star & Strauss, 1999).

Catalogues and discovery platforms are core elements of the information infrastructure that support library services that are considered to be commonplace in users' workflows, to the point that they are discreet by both routine and intention (Karasti & Blomberg, 2018; Star & Ruhleder, 1996). A notable level of resources are expended in creating infrastructures that are inconspicuous to users and this feature is typically regarded as a valuable asset (Appadurai, 2014; Karasti & Blomberg, 2018). Successful systems are invisible by delineation; the less effort needed to utilise them, the more difficult they are to perceive (Bowker & Star, 1999). As Star and Ruhleder (1996) indicate, infrastructures continue to be unnoticed until there is a fault in the system then the focus on them intensifies as measures are undertaken to remedy these complications.

2.7 Quality management in academic libraries

This section explores the use of different quality management systems within academic libraries. It then considers the use of service quality management to support the processing of MARC records. It also discusses the work undertaken by library consortia to collaborate more efficiently, particularly when cataloguing consortial e-book purchases.

2.7.1 How quality management is utilised within academic libraries

Quality management is traditionally linked to manufacturing where it is used to transform wasted staff time and resources into improved goods (Deming, 2000). It is recognised that quality in the library and information sector is regarded as vital to monitor and attain (Harer, 2012). Albu, Cristian, & Pistol (2012) identify key ways in which academic libraries fulfil quality targets including assisting in learning practices, achieving strategic goals and meeting end users' requirements for resources. Several different quality management systems have been utilised, a review of the literature for academic libraries in North America showed that Total Quality Management and ISO 9000 were prevalent in the 1990s whereas the Balanced Scorecard and Continuous Quality Improvement have been applied more in recent years (Harer, 2012). The Balanced Scorecard has been mentioned in Section 2.6.3 of this chapter, in terms of its use at the University of Virginia. Other institutions that have deployed this method include the libraries of John Hopkins University, McMaster University and the University of Washington (Mengel & Lewis, 2012).

Continuous Quality Improvement stems from the Toyota production system and has two main components; a methodical enhancement of processes in order to minimise waste, and an obligation to cultivate an ethos of improvement amongst staff (Clark, Silvester, & Knowles, 2013). Deming (2000) recognised that quality assurance can provide key statistics on errors being created, but quality management improves the processes and systems to avoid errors occurring in the first place. Kress & Wisner (2012) highlight the value of supply chain management in assessing how library resources satisfy the requirements of patrons, by gauging the effectiveness of all elements including interactions with vendors and in-house operations.

Many academic libraries have had to deal with changes in technology, cuts to staff and budgets, as well as other streamlining projects. This has the possibility of causing a deficit of knowledge within departments and a lack of interaction and up-to-date documentation (Falk, Hertenstein, & Hunker, 2013). Creating quality management systems can support the diffusion of knowledge between employees and different departments, it can also boost co-operation and enable the generation of effective workflows (Farrell, 2017; Islam, Agarwal, & Ikeda, 2015). Workflows deliver an overview and give direction to all parties, informing them of the sequence of tasks and their rationale. Recording workflows counteracts issues of just one employee having the necessary information and guarantees that duties can continue if that staff member is not present (Lewis & Kennedy, 2019; Sapon-White, 2014). It is also suggested that workflows should be routinely reviewed in order benefit from advances in technology and to prevent outdated practices from having a negative effect on performance (Heinrich & LaFollette, 2010).

2.7.2 Quality management in cataloguing departments

Libraries are developing workflows for processing bibliographic records (Beisler & Kurt, 2012), but the variation of methods in which vendors supply them means separate workflows might be needed for different suppliers (Sapon-White, 2014). Panchyshyn (2013) suggests creating a checklist to monitor the processes involved in batch loading records, with three main benefits, providing a clear outline for staff, guaranteeing that all key decisions are made and keeping evidence of each assignment. Building workflows for batch loading is also viewed as a key element in terms of the tracking the quality of outsourced records, (Turner, 2016). Grigson (2011) recommends creating a file that specifies the metadata needed for e-books, which can be used as an instrument for explaining requirements and as a standard for monitoring the quality of records from suppliers.

The assessment of cataloguing departments is viewed as a vital element of quality management that can help to simplify workflows, develop services and improve decision making (Mugridge, 2014). A survey of the types of assessments of technical services conducted by academic libraries in Pennsylvania revealed that the most popular methods were quantitative, such as gathering figures. Some qualitative measures such as customer feedback, evaluations of processes and benchmarking were also being implemented (Mugridge, 2014). Benchmarking allows libraries to assess and contrast their performance with that of other libraries and enables the evaluation of quality and workflows, as well as skillsets of employees (Haswell, 2012; Mugridge & Poehlmann, 2015a). A survey of 92 libraries worldwide found that just over a fifth of them had carried out benchmarking within their cataloguing departments (Mugridge & Poehlmann, 2015a).

Engagement with staff from other departments within the library is regarded as a valuable tool for assessing cataloguing departments. Internal customer surveys can assist in improving certain processes as well as encouraging better communication between different sections of the library. Such measures have been conducted by the libraries at the University of Albany and the University of North Texas where positive responses have been received about being able to share opinions and areas for development have been identified (Mugridge & Poehlmann, 2015b; Sassen, Welch, & Loafman, 2016).

2.7.3 Quality management in library consortia

The rise in library consortia has seen more efforts for cataloguing departments to work collaboratively to minimise duplication of workloads (Mugridge, 2013; Young, 2012). There have also been moves to generate consortial benchmarks and guidelines in order to maintain a uniform approach (Martin et al., 2011). There is little in the literature from a UK perspective of library consortia, the majority of articles are from a North American point of view. Flynn & Kilkenny (2017) discuss centralising the cataloguing of consortial purchases at the OhioLINK consortium in order to reduce the time it takes to load records into the LMS, decrease the repetition of workloads and to ensure consistency of standards. Another benefit that they highlight is that working in this manner allows errors in records from suppliers to be more easily identified. A taskforce at the Consortium of Academic and Research Libraries in Illinois conducted a survey of the practices of their members and from this made a number of recommendations including keeping records for e-resources and their print equivalents separate in order to enable easier loading and removal, adherence to the PCC's provider neutral guidelines. As a result of the survey, extra training was

offered on the use of MarcEdit and a supporting document was created to provide guidance on batch loading (Martin et al., 2011). The Triangle Research Libraries Network divided the records of six shared e-resource packages so that different members were accountable for each collection, but they also worked towards the same set of cataloguing guidelines. The resulting benefits included providing swifter access to resources and ending the duplication of workloads (Pennell et al., 2013). Within the UK, the Wales Higher Education Libraries Forum has developed RDA templates in order to attain more consistent cataloguing across the consortium (Daniels, 2018). The National Bibliographic Knowledgebase (NBK) Library Hub Cataloguing permits Jisc members to contribute and share MARC records, however licensing restrictions mean that the majority records from suppliers cannot be shared within the NBK, even if they have been enriched by libraries (Jisc, 2023). As discussed in Section 2.5.4, Jisc's ongoing project Plan M, aims to make licensing less restrictive in order to streamline the bibliographic metadata ecosystem.

2.8 Communities of Practice

A key approach for technical services staff to keep abreast of issues surrounding quality cataloguing is to be engaged within a community of practice. Snow (2011) identifies a number of means of communication through which cataloguers consider different ideas and debate their understanding of quality cataloguing, these include email listservs, conferences and journal articles as well as through conversations within the workplace. Members of the LIS community have substantial experience of both combining and preserving knowledge, liaising with colleagues, and a natural adeptness to aiding others in their professional development (Louque, 2021).

Communities of practice are informal networks in which people communicate ideas and interests about a particular specialism, this can lead to innovative and improved ways of dealing with specific difficulties (Wenger & Snyder, 2000). These networks are characterised by three main aspects; firstly that participants have a clear mutual agreement of the concerns of the community, secondly that channels for engagement are created, and thirdly they have constructed a joint collection of assets such as methods, tools and procedures (Wenger, 2000). Communities of practice materialise through a feeling of shared objectives and collaboration, components that create them might be enhanced communication through technological means or shared workspaces; it might be that a particular practice is recently established or witnessing radical transformation (Cox, 2012). The actions of communities of practice alter frequently as membership changes and the requirements of practice make communities modify how they relate to their situation (Brown & Duguid, 1991). Communities of practice are meaningful because the proportion of knowledge requiring management is not retained in files on computers, but solely occurs in the minds of employees. This knowledge is imparted by staff participating in communities of practice, it is adopted by others and novel knowledge is generated (Louque, 2021).

Communities of practice can vary in the relationship they have with their parent organisation, some are broadly unacknowledged even sometimes by the members of the communities themselves, whereas other communities are understood to be of value to an institution and therefore become part of the authorised structure (Wenger, McDermott, & Snyder, 2002). When established properly, the latter such communities can gain resources and support from management without interference (Wenger et al., 2002). The field has as wide range of possibilities in terms of how communities are regarded by companies, with one view not inevitably being superior

to others, however, each community will face different challenges as its relationship with the business is it part of develops (Wenger et al., 2002). It is claimed by Henrich and Attebury (2010), that communities of practice within the LIS sector have a necessity for configuration and supervision to a certain extent. The standing of a community of practice and how it is considered by formal institutions, influences how it operates and the knowledge it creates (Brown & Duguid, 1991; Cox, 2005; Wenger et al., 2002). A community of practice that is more established within its parent organisation could have more involvement from management and be more statically defined, therefore reducing its scope for development (Wenger et al., 2002). This sort of community of practice could be viewed as more reliant on canonical knowledge because of the clearer ties they have to their institution and feasibly not as amenable to practices that are non-canonical and respectively as constructive (Brown & Duguid, 1991). Canonical knowledge can be an effective instrument, however, it utilises the form of fixed documents that might be considered commanding and restrictive, whilst non-canonical knowledge is verbal, collective and impromptu (Cox, 2005).

As a community grows there may be challenges in retaining significant links between members, as well as the arrangement of the group and how it assembles (Roberts, 2006). Modern working circumstances such as remote and hybrid working can limit the involvement between members of communities of practice and reduce the prospects of convening in a neutral area (such as the canteen utilised by Orr's (1996) maintenance workers) (Cox, 2005; Eraut, 2002). Virtual meetings could be less complicated to facilitate as it is unnecessary for all attendees to be located at the same venue, but online meetings could be viewed as more disjointed and therefore less focused. Remote working also removes the option of impromptu discussions

between co-workers that can be a constructive way of progressing communities of practice (Cox, 2005).

Members of communities of practice are susceptible to a range of tensions and internal struggles as a result of their membership to various communities of practice and the distortion of peripheries between them (Cox, 2005; Li et al., 2009; Wenger, 1998, 2010). Individual communities of practice are not segregated, they are part of broader social constructions, which incorporate institutions as well as other communities, there are several communities that actors will be part of and acquire knowledge from (Wenger, 1998, 2010)

Within the UK, the library and information science community interacts in a variety of ways including the email listserv LIS-LINK which is used for sharing news on events and job opportunities, as well as facilitating discussion (JISCMAIL, 2020) and #uklibchat a discussion group for students and professionals that occurs once a month on Twitter (#uklibchat, 2020). There are also a number of specialist interest groups ran through the Chartered Institute of Library and Information Professionals, including the Metadata and Discovery Group that delivers learning opportunities, helps the progression of standards, produces a journal, and holds conferences every two years (CILIP, 2020). Within the seven regional consortia for UK academic libraries (see Section 2.3.2), there are also a number of special interest groups that meet regularly and facilitate discussion forums (Mercian Collaboration, 2023; WHELF, 2023).

2.9 Developments in cataloguing

As the aim of this study is to examine the key influences surrounding the quality management of bibliographic metadata, it is necessary to discuss measures being implemented to replace MARC, the main format in which metadata is currently stored in academic libraries. Significant changes to how metadata is created could have implications for how its quality is monitored and the processes surrounding this.

2.9.1 The current situation with MARC

As highlighted in Section 1.1, the majority of libraries continue to rely on MARC records and the metadata within them to enable the discovery of e-books (Frederick, 2016). MARC is not without its limitations as it was intended for use with print materials (Luther, 2009) and there are elements of it that are insufficient in detailing all of the electronic characteristics of e-books (David & Thomas, 2015). As MARC is utilised solely by libraries there are also concerns that its use prevents discovery of resources in the wider semantic web where its format is incoherent (Schreur, 2012). MARC possesses a number of the limitations that it received from its predecessor the card catalogue, and the metadata stored within it is more geared towards use by humans than computers (Alemu et al., 2012). There are moves within the library community to convert catalogues from independent systems into linked data that has the capability of interacting with assets in the semantic web (Coyle, 2010). This will not be without its tribulations because of the substantial quantity of metadata that is currently stored using MARC (Alemu et al., 2012). Any move away from MARC will also require adapting to new working practices and considering the skills needed by staff to learn different procedures (O'Dell, 2015). Technical services staff are

expressing eagerness about the proposed changes, but little in their day-to-day routine has yet altered (Seeman & Goddard, 2015). There is an underlying current in much of the literature that points to a certain amount of inertia and a lack of leadership regarding the move away from MARC, however this could be made explicit. This also reiterates criticism that the communities of practice involved in metadata are resistant to change as discussed in Section 2.6.2.

2.9.2 Linked data and BIBFRAME

With advances in linked data and a semantic web that utilises Uniform Resource Identifiers (URIs) to connect individual entities rather than static webpages (Allemnag & Hendler, 2008; Berners-Lee, 2009), there are moves to establish a more fluid alternative to MARC (David & Thomas, 2015). Linked data permits different schema to work within the same environment, under the condition that objects are given URIs and that Resource Description Framework (RDF) is utilised (Alemu et al., 2012). BIBFRAME, which is based on the Entity-Relationship Model and reduces the duplication of data that occurs in MARC (Jin, Hahn, & Croll, 2016), is being piloted by some academic libraries including the University of Illinois and University College London (Mitchell, 2016). BIBFRAME is being supported and developed by LOC and can be used in a variety of formats including RDF and Extensible Markup Language (XML) that are commonly used for creating linked data (Jin et al., 2016). However, more exploration is necessary to establish how library systems need to be adjusted in preparation for the incorporation of any new protocol for recording and storing bibliographic information (University of California, 2016). Wang & Yang (2018) predicted that the majority of metadata for libraries will have been converted to linked data within the next decade. Various initiatives are moving the process forward, the Library of Congress are making authorities accessible as URIs and the Bibliothèque

nationale de France has provided metadata relating to authors, in the form of millions of RDF triples that can be mined under open access (Schreur, 2012). Providers of LMS including ExLibris, Innovative Interfaces and SirsiDynix are working to produce functions within their systems that will support the conversion of MARC to BIBFRAME (Wang & Yang, 2018). OCLC's WorldCat has included Schema.org in its metadata so that it is more easily searchable on the semantic web (Murphy, 2012).

2.9.3 Open Access Metadata

Linked data works within the notion of freely sharable metadata, with which the existing structure for exchanging bibliographic records within academic libraries is incompatible. Suppliers currently provide records as part of a purchase of resources and this places restrictions on its utilisation (Schreur, 2012). The ability of the internet to promote pioneering methods for utilising records has led to an increasing number of parties to call for such metadata to no longer be constrained by a business model (Bérard, 2011). The libraries at some prominent institutions including the University of Cambridge and Harvard University have made their bibliographic records available as open access, but this is not currently common practice (Flynn, 2013). The chair of the Digital Public Library of America stated that the actions of Harvard University had the potential to embolden other academic libraries to follow suit (Duke, 2012). In order to be able to develop a pathway for open access metadata, libraries will have to negotiate with suppliers regarding authorisation and accreditation. A possible incentive for suppliers could be the positive effect that participating more fully in the open access movement could have on their profile (Flynn, 2013).

2.10 Current trends for higher education library collections

The management of higher education library collections is undergoing swift transformations in terms of digital technology and the abundance of electronic resources, as well as financial restrictions that need to be considered (Horava, 2010; Way, 2017). The digital age is shifting the emphasis away from the amount and range of owned materials, to the significance of facilitating the use of leased collections (Dempsey et al., 2014; Horava, 2010). As a result, the majority of academic libraries are able to offer patrons more resources, but this comes at the price of reducing enduring access to these materials, this compromise means that current patrons have the benefit of more plentiful and meaningful collections (Levine-Clark, 2014). This section discusses in more detail the shift from print to digital and the moves towards facilitated collections.

2.10.1 The shift from print to digital

Before the advent of the digital age, the size of physical library collections were considered as adding prestige to universities as they had more resources that may cater for the research and learning requirements of patrons (Way, 2017). Today, with the expectation from patrons that materials will be accessible anywhere and anytime, those that are only in print format with no electronic equivalent are surpassed by online resources that are instantly accessible to patrons remotely (Horava, 2010). A study of UK higher education libraries by SCONUL (2018) showed that in 2016-17, 98% of journals subscribed to were obtained solely in digital format. The report also highlighted that on average, e-books made up more than 30% of monograph collections. Despite a shift towards higher expenditure on electronic resources, the majority of library staff believe that print books will still play an important role in

collections in a decade's time (Pinfield, Cox, & Rutter, 2017). Physical books that are part of library collections are starting to be managed differently to how they were in the past, with a move towards a more networked approach or the 'collective collection' (Dempsey et al., 2014), this is discussed in more detail in the next section.

2.10.2 The facilitated collection

The shift from print to digital has also led to a change in focus from an owned collection, where resources purchased by libraries are stored locally, to a facilitated collection with a variety of local and networked assets are organised to meet the requirements of end-users (Dempsey, 2017). This is manifested in a number of ways including the external collection, the collective collection and the just-in-time model.

2.10.2.1 The external collection

Academic libraries are increasingly including in their collections material that they have not purchased, including access to hubs that offer free e-books, for instance HathiTrust and Google Books (Anderson, 2011; Dempsey, 2017). The deployment of web-scale discovery tools within libraries has made the process of accessing a variety of networked resources more straightforward (Levine-Clark, 2014). In addition to this, libraries are using subject guides to provide more tailored access to materials that are obtainable externally, as well as local resources (Dempsey, 2017).

2.10.2.2 The 'just-in-time' model

Libraries have traditionally taken a 'just-in-case' approach to collection management where resources are purchased and stored locally, as librarians predict what patrons might need. This 'just-in-case' form of collection management is not without its issues as library staff cannot always judge what patrons may require, therefore a substantial amount of a library's spending is on books that are seldom borrowed, if at all (Way, 2017). As stated in Section 2.3.3, contemporary library collections are also utilising the 'just-in-time' model which focuses on DDA and is a shift towards less curatorial methods of collection management (Dempsey, 2017; Dempsey et al., 2014; Way, 2017). A survey of librarians in North America found that although DDA is being utilised intensively, it is regarded as just a complementary measure (Horava & Levine-Clark, 2016). It is predicted that DDA usage will increase as it permits library budgets to be spent in a more targeted way and offers patrons access to a wider range of resources than the 'just-in-case' model allows (Levine-Clark, 2014; Way, 2017).

2.10.2.3 The collective collection

It is recognised that there is a shift towards a more networked organisation of print collections that enables libraries to reduce the amount of legacy physical books that they hold as well as develop a collaborative stock for future use (Dempsey et al., 2014; Levine-Clark, 2014). This 'collective collection' comprises of three main practices, firstly regional storage projects for rarely used material that can be accessed through requests (Levine-Clark, 2014). Secondly, one library in a collaboration keeping particular titles in order for other associated libraries to be able

to remove them, and thirdly, library consortia curbing the amount of duplicate physical books that are procured within the group (Way, 2017). One of the key drivers for this is the demand on library space, not only in terms room on the shelves for new stock but also the library building as a whole where areas for patrons to study and learn are considered vital (Horava, 2010; Way, 2017).

In addition to the shared management of print collections, there is also an increase in union catalogues at a regional level, such as the Orbis Cascade Alliance and OhioLink in North America, and at a national level such as Norway's BIBSYS consortium. At an international level, WorldCat gives members access to a global collection of union catalogues (Dempsey, 2012). Within the UK, Jisc have established a National Bibliographic Knowledgebase which is replacing Copac as the country's union catalogue and includes a facility for sharing records subject to them not being under restricted licence (Cousins, 2019).¹⁴ As previously discussed in this chapter, Jisc are currently working with libraries and suppliers to negotiate less restrictive licences for bibliographic records (Jisc, 2019).

The move towards a 'collective collection' is not without its challenges including; creating suitable workflows, libraries within a consortium using a variety of LMS, and deciding which titles to retain and which to weed (Horava & Levine-Clark, 2016). It may take some time for strategies and structures to be properly formulated and the progress is likely to be variable (Dempsey et al., 2014).

¹⁴ Also appears in (Edwards, 2022) - see Declaration for full details

2.10.3 'Outside-in' vs 'Inside-out'

The traditional approach to academic library collections and their stewardship has been what Dempsey et al., (2014) have labelled the 'outside-in' model where materials produced externally are acquired for use within the university. As the licensing of serials and e-books becomes more homogenous amongst the majority of academic libraries, there is more of a focus on the 'inside-out' approach which promotes the resources that a university can offer exclusively, such as special collections and institutional repositories (Dempsey et al., 2014; Levine-Clark, 2014).

The prominence of special collections is considered as a way of differentiating university libraries from each other, as a means of being more appealing to students and academics (Levine-Clark, 2014; Meier, 2016). These resources are organised independently from a library's main stock with a separate staff team stewarding them, they encounter issues such as a lack of space, build-ups in cataloguing and needing to increase the discoverability of materials (Dempsey et al., 2014).

The 'inside-out' model is also demonstrated through the increase in institutional repositories which organise the research outputs of universities (Pinfield et al., 2017). A rising amount of academic publishing is obtainable as open access and libraries are acknowledging that a shared framework for handling these resources is required. Libraries in the UK and North America are considering how to manage national repositories for open access in order to decrease the strain on specific universities (Dempsey et al., 2014).

The equilibrium between these two approaches will vary depending on the type of university to which libraries belong. Those attached to research universities may be more inclined to concentrate on the inside-out and have the resources in order to do so, whereas libraries at teaching based universities may be less motivated to pursue this (Dempsey et al., 2014; Pinfield et al., 2017).

The collections grid (Dempsey et al., 2014) was created as a tool to assist considerations of how libraries develop collections. It streamlines some aspects as it was originally developed in 2003, prior to many digital developments, but it can still be utilised. The grid separates materials in alignment with their uniqueness and stewardship. Traditionally, libraries have focused much of their stewardship, including cataloguing and bibliographic control on books and journals in print and electronic formats, despite them not being unique to a particular collection. The 'inside-out' model has implications for the amount of time and resources that are spent on the stewardship and metadata creation of these resources as focus shifts towards a different quadrant of the grid, the more unique items stored in institutional repositories (Dempsey, 2012; Dempsey et al., 2014).

2.11 Research questions

As established in Section 1.3 the aim of this research is to explore the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries and how this relates to changes occurring in this sector. To accomplish the research aim, this chapter reviews and synthesises the current literature in the field and based on this, the following six questions have been derived:

- i) What are the workflows for the quality management of bibliographic metadata of e-books in UK higher education libraries?
- ii) What are the relationships between key actors in the bibliographic metadata ecosystem?
- iii) How is the value of cataloguing regarded by key actors and how does this relate to their perceptions of their role?
- iv) How does the reshaping of higher education library roles and collections affect the workflows involved in the quality management of e-book bibliographic metadata?
- v) In what ways are metadata staff involved in communities of practice and what are the structures and norms of these communities?
- vi) What impact has the Covid-19 pandemic had on the quality management of e-book metadata and which of these effects could be permanent?

2.12 Contribution of the research

The changing environment of cataloguing in relation to e-books and the quality management of metadata is an area of interest to many researchers. There are however, limitations to the existing literature, which this research has investigated further in order to contribute to current knowledge. This study was designed to make the following contributions:

- i) Provide a clearer understanding of the workflows surrounding the quality management of e-book metadata and the interactions and professional relationships between key actors in the bibliographic metadata ecosystem.

This could prove beneficial in the identifying where changes to metadata are being made and to how or if these changes are being communicated.

- ii) Provide explanations of how the value of cataloguing and bibliographic metadata is regarded by key actors and how this relates to perceptions of their role.

How the value of cataloguing is perceived by different actors is key to establishing why particular quality management decisions are being taken.

- iii) Provide clarification of how the pressures and influences on workflows and actors involved in e-book metadata relate to the reshaping of library roles and collections.

This is important to helping to understand the stewardship of collections and how this impacts on the work of metadata staff.

- iv) Provide a clearer understanding of the communities of practices which metadata staff are involved in and how this participation shapes their roles.

Gaining a more defined view of these communities of practice will help ascertain how knowledge and best practice are shared as well as how these collaborations can improve the bibliographic metadata ecosystem

- v) Propose possible improvements to the processes and relationships surrounding the quality management of e-book metadata.

The rationale for this is to ultimately enhance discoverability for service-users and therefore make the process more cost effective and efficient for actors within the ecosystem.

2.13 Conclusion

This chapter has highlighted the significant factors surrounding the quality management of bibliographic metadata for e-books. The current e-book market and the purchasing of large collections has led to substantial changes in the way that metadata is processed, with a more aggregated approach. Consortial purchasing and the collaborative work that library consortia undertake is also discussed, this too shows signs of moving to a networked level. Much of the current research on consortial workflows focuses on institutions in North America, there is little written about the situation within the UK.

This research could contribute to a clearer understanding of the relationships between library staff and suppliers, as there is a dearth of existing literature on this topic. As the relationship between libraries and e-book suppliers is an example of a key element of supply chain management (Kress & Wisner, 2012), this study may inform research surrounding supply chain management more generally. There is also currently little research surrounding the workflows and practices of suppliers in relation to e-book metadata. The study could provide key recommendations for best practice in the creation and handling of metadata for both libraries and suppliers. There is also scope for examining how these processes and relationships relate to notions of quality management.

There is a certain amount of literature regarding measuring the value of cataloguing departments so this does not need to be explored further, however, how library staff regard the value of cataloguing is not covered well by existing research; therefore, it could be advantageous for this project to investigate this area in more detail. The literature also highlights further adaptations that are being made as momentum gathers in the move away from the MARC format; this is another element that this research takes into consideration. There is a gap in the current literature regarding how the changing cataloguing environment relates to the attitudes of technical services staff and this could be valuable to examine further. There is a lack of research regarding how current trends in library roles and library collections as discussed in this chapter, relates to those in e-book metadata, this is therefore examined further in this study.

Chapter Three: Research Methodology

This chapter explores the research approach, philosophical stance and the methods adopted for this study. (Crotty, 1998) suggests that within the literature surrounding social research, methodological terms are often placed “together without distinction” (Crotty, 1998, p.3) and that this can be confounding. This chapter therefore adopts the “Methods Map” put forward by (O’Gorman & MacIntosh, 2015) as a distinct and defined process which links five levels of connected choices that were made in designing the research. It begins by presenting an adapted version of the Methods Map, before discussing the rationale for choices made regarding ontology and epistemology. The methods for sampling, data collection and analysis are then presented. The chapter concludes by considering the ethical issues involved in the study.

3.1 The Methods Map

Within the research process, O’Gorman & MacIntosh (2015) suggest that five key components need to be defined:

- Ontology: “the branch of metaphysics that deals with the nature of being and reality” (O’Gorman & MacIntosh, 2015, p.54).
- Epistemology: the theory of knowledge and how reality is perceived (Crotty, 1998).
- Methodology: the outline and criteria underpinning the selections and utilisation of specific techniques which are then undertaken to fulfil the research objectives (Crotty, 1998).

- **Methods:** the process deployed to collect and explore data related to the research questions (Crotty, 1998).
- **Data Analysis Approaches:** the techniques utilised for analysing the data generated during the study.

In alignment with this model, the research project adopted the following components that informed one another and are discussed in more detail in this chapter:

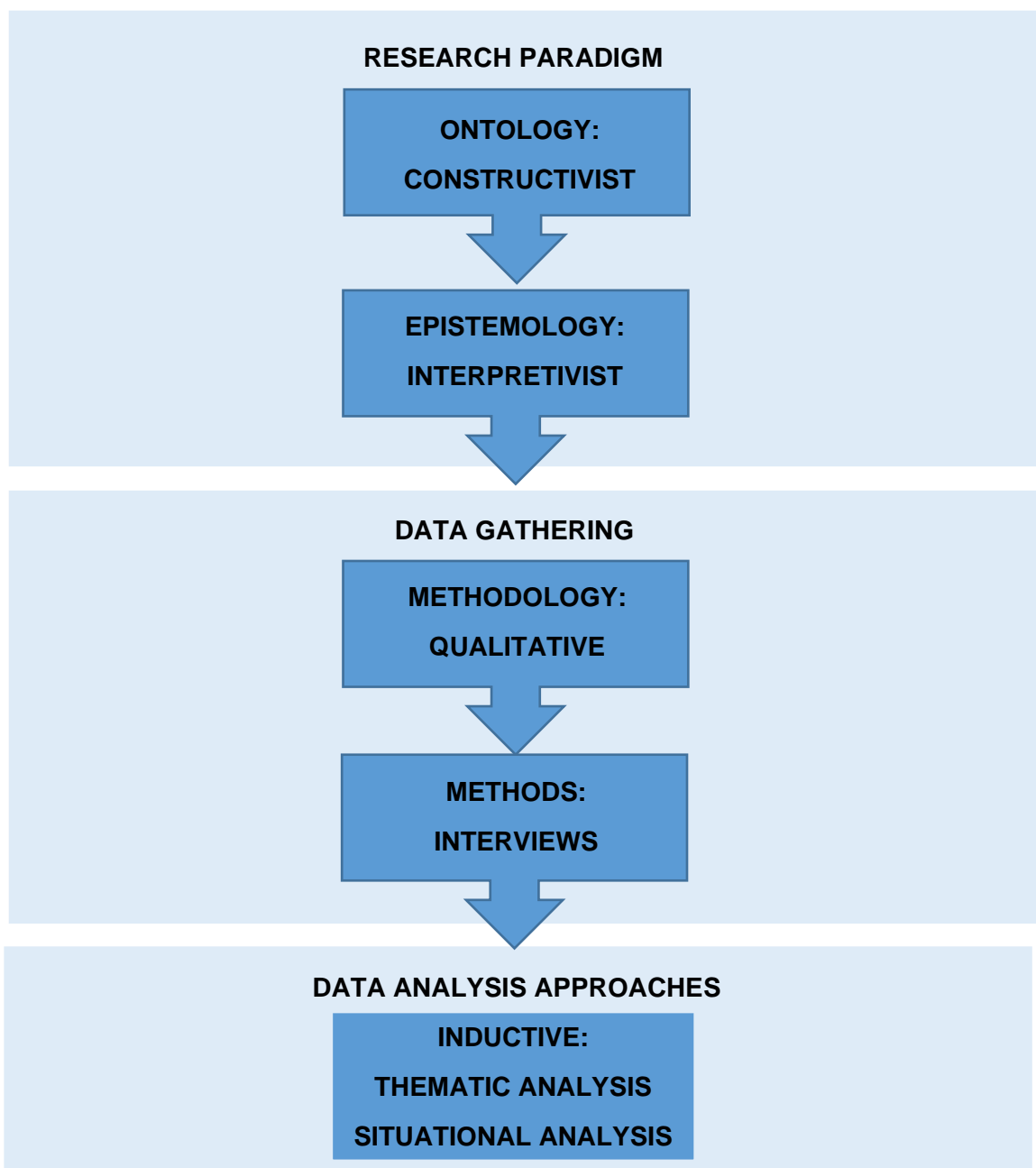


Figure 2: Methods Map - Adapted from (O’Gorman & MacIntosh, 2015, p.51)

3.2 Ontology: Constructivist

The initial step in designing research is to consider the ontological position, a simple way of viewing this is to reflect on whether reality can be perceived as objective or constructivist. Objectivism suggests that “social phenomena confront us as external facts that are beyond our reach or influence” (Bryman, 2012, p.32), for example an organisation has structures and procedures and can be considered as a perceptible entity which has its own “reality that is external to the individuals who inhabit it” (Bryman, 2012, p.32). Constructivism takes a relativist stance that “there is no objective truth to be known” (Hugly & Sayward, 1987, p.278), which differs from the positivist view that there is an objective truth that research may or may not reveal. This research adopts a constructivist approach and is guided by the notion that “social reality is multiple, processual and constructed” (Charmaz, 2014, p.13), it considers knowledge to be a construction but recognises that it happens under particular circumstances that we might not be conscious of and might not be our preference (Charmaz, 2014). Constructivism encourages the researcher to explore the ways in which reality is a construction by social actors instead of an entity that is external to them. It puts forward the view “that the social world and its categories are not external to us, but are built up and constituted in and through interaction” (Bryman, 2015, p.30).

The exchanges between researcher and participants in the field are key to the data that is gathered, these exchanges cannot be anticipated and it is not possible to completely predict the “mutual simultaneous shaping” (Lincoln & Guba, 1985, p.151) that occurs during the process of interviews, in which those involved interact with and influence each other. The outcome of each interaction cannot be predicted and all of those involved are changed as a result, but this uncertainty in which the researcher

operates means that the research should be emergent and the researcher needs to respond and adapt the design according to the situation (Lincoln & Guba, 1985). The emergent design of this research is discussed further in Section 3.4.1

3.3 Epistemology: Interpretivist

Epistemology offers a theoretical base for determining what types of knowledge are conceivable and how we can guarantee that they are sufficient and authentic (Maynard, 1994). At one end of the spectrum is the positivist stance that traditionally follows an objective ontology, at the opposing end is the epistemological approach of interpretivism, which is conventionally guided by constructivism (Bryman, 2012; O’Gorman & MacIntosh, 2015).

Interpretivism is viewed to be based upon the assumption that an approach is needed that values “the differences between people and the objects of the natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action” (Bryman, 2015, p.26). Interpretivists claim that it is impossible to comprehend why humans behave in particular ways or why certain organisations exist and function in distinctive customs, unless we can understand how humans construe their environment and how they react to these understandings (Hammersley, 2013). Therefore, it is the role of the research to obtain access to the thoughts of participants and to interpret their activity and world from their viewpoint.

One means by which interpretivists consider the type of comprehension needed in social research, is attributed to hermeneutics (Hammersley, 2013). The key value of hermeneutics is that we begin to recognise a multifaceted whole, from notions of its different elements and how they relate to each other (Klein & Myers, 1999).

Interpretive inquiry dismisses “the possibility of an “objective” or “factual” account of events or situations, seeking instead a relativistic, albeit shared, understanding of phenomena” (Orlikowski & Baroudi, 1991, p.5). A key principle of interpretivism is the interaction between researcher and participants; this is one of the key rationale for selecting in-depth interviews as the data collection method for this thesis. This is discussed further in Section 3.5.

3.4 Methodology: Qualitative

The aim of this study, which has been explored in Chapter One, is to examine the key influences, attitudes and processes involving the quality management of metadata in bibliographic records of e-books in UK higher education libraries. The research questions incorporate the requirement for a clearer picture of the working practices of key actors in the bibliographic metadata ecosystem, as well as the relationships between them. As the research aims to explore the attitudes and viewpoints of these different actors, a qualitative approach was taken, which means the research studied “things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them” (Denzin & Lincoln, 2005, p.3).

In qualitative research, the researcher “collects and interprets data, making the researcher as much as part of the research process as participants and the data they provide” (Corbin & Strauss, 2014, p.1). In contrast to quantitative research, a

qualitative approach is frequently labelled by aspects it does not cover such as not following mathematical methods or generating results that do not stem from a statistical approach (Connaway, Radford, & Powell, 2017). However, a key asset of qualitative methods is their “ability to provide complex textual descriptions of how people experience a given research issue. It provides information about the “human” side of an issue – that is, the often contradictory behaviors, beliefs, opinions, emotions, and relationships of individuals” (Mack, Woodsong, MacQueen, Guest, & Namey, 2005, p.1).

3.4.1 Emergent Design

Researchers adopting a qualitative methodology commonly modify the design of their inquiry as it progresses in accordance with what they discover in the field, this emergent design means that the research is accommodating and receptive to the specific situation being studied (Schwandt, 2015). This research is aligned with emergent design, as it assumed an iterative approach, which led to a number of alterations to the research questions, interview guides and data analysis.

The research changed as the data collection and analysis progressed, an additional research question added in July 2021 as it became clear from early interviews and their subsequent analysis that the Covid-19 pandemic was influencing the field:

- vi) What impact has the Covid-19 pandemic had on the quality management of e-book metadata and which of these effects could be permanent?

This led to additional questions being included in the interview guides. Further questions were also included in the guide around Plan M and the Metadata Matters work of NAG and SUPC as a number of participants discussed the importance of them in their work.¹⁶

After the initial findings chapter had been written, a need for diagramming emerged to build a clearer picture of the bibliographic metadata ecosystem and how this related to the data. The decision was therefore taken to conduct situational analysis, as a means of sense checking the findings and explore the data further, this in addition to the initial findings helped to inform the discussion chapter.

3.5 Method: Interviews

The research was conducted by undertaking in-depth interviews with participants from the following three groups:

- i) Metadata staff within UK higher education library consortia
- ii) Senior management staff within UK higher education library consortia
- iii) Key actors in the publishing, e-book and metadata supply sector

Interviews are viewed as a prominent approach to qualitative inquiry and highlight “the individual experience of the participant, which is seen as relevant for understanding the experience of people in a similar situation” (Flick, 2007, p.79).

Within qualitative interviewing, there are three categories of interview “in-depth, semi-structured or loosely structured” (Mason, 2018, p.109). In-depth interviews are

¹⁶ Also appears in (Edwards, 2022) - see Declaration for full details

recognised as a strategy that is conducive to interpretivist inquiry, and were therefore selected in order for important issues to be considered but also to allow for any unforeseen elements that may be of interest to be pursued (Pickard, 2013). Interview guides were produced for each of the above groups as advocated by (Charmaz, 2014) as a way of creating open-ended questions that allow unanticipated data to emerge. For each of the 31 interviews, participants were briefed about the purpose of the study (Walliman, 2006) and made fully aware that they could decline to reply to questions or could ask for clarification about questions (Pickard, 2013). Guides were compiled for each of the categories of participants in order to set out the essential topics for each interview (Karp, 2009) (Appendices C, D & E).

Data gathering occurred for a period of 13 months from June 2021 to June 2022. It is notable that the in-depth interviews commenced shortly after the final national lockdown, which was a consequence of the Covid-19 pandemic. Therefore, as stipulated in Section 3.4.1, the impact of the pandemic was considered by participants in their responses, and this led to an additional research question being included in the research. Interviews lasted between 30 minutes and 60 minutes, with the majority being approximately 50 minutes in duration. Preliminary questions in the interviews were quite broadly around job roles in order to make participants feel comfortable talking and to create openings for dialogue (Stroh, 2000), they also helped to build a stronger rapport with participants and this is deemed as a crucial element that needs to be established in a short space of time (Pitts & Miller-Day, 2007). An interview should not end suddenly when a participant has been responding to in-depth questions (Charmaz, 2014), therefore closing questions were incorporated to determine a more natural conclusion. Transcribing and the thematic analysis of data were conducted concurrently to data collection. Member checking was carried out in order to verify the data, firstly by sharing transcripts of the

interviews with the participants for feedback and secondly by sending participants a copy of the findings.

3.5.1 Sampling

In alignment with a constructivist research approach, purposive sampling was utilised, the rationale for this “lies in selecting *information-rich cases* for study in depth. Information rich cases are those from which one can learn a great deal about issues of central importance to the research” (Patton, 2002, p.196). There are two feasible routes to undertaking purposive sampling: priori sampling, where a criteria is ascertained ahead of sampling; and snowball sampling, where the sample grows as the study develops (Pickard, 2013). The latter route was selected for this research as it allows for a more inductive and emergent design (Pickard, 2013). Snowball sampling deployed in the way suggested by Lincoln & Guba (1985), starts with an interaction with an initial participant who is often a gatekeeper, and from the attributes and concerns that they raise, the criteria for selecting ensuing cases is established. This strategy supported the researcher in communicating with participants from a range of institutions within the two consortia involved in the research and the e-book and metadata suppliers and publishers from whom they source materials. Table 1 details the 31 participants for this study:

Participant	Description
Participant A	Senior Manager – HE Library – Consortium A - Teaching University
Participant B	Metadata Librarian – HE Library – Consortium A – Research University
Participant C	Senior Manager – HE Library – Consortium A - Research University
Participant D	Senior Manager – E-book Supplier
Participant E	Metadata Librarian – HE Library – Consortium A – Research University
Participant F	Senior Manager – E-book Supplier

Participant G	Metadata Librarian – HE Library – Consortium A – Teaching University
Participant H	Senior Manager – E-book Supplier
Participant I	Senior Manager – E-book Supplier
Participant J	Senior Manager – Metadata Intermediary
Participant K	Senior Manager – E-book Supplier
Participant L	Senior Manager – HE Library - Consortium A – Teaching and Research University
Participant M	Metadata Librarian – HE Library - Consortium A - Teaching and Research University
Participant N	Senior Manager – HE Library – Consortium A – Research University
Participant O	Collections Manager – HE Library – Consortium A – Teaching University
Participant P	Senior Manager – HE Library – Consortium A – Research University
Participant Q	Metadata Librarian – HE Library – Consortium A – Research University
Participant R	Senior Manager – HE Library – Consortium B – Teaching University
Participant S	Collections Manager – HE Library – Consortium B – Teaching University
Participant T	Senior Manager – HE Library – Consortium B – Research University
Participant U	Collections Manager – HE Library – Consortium B – Research University
Participant V	Metadata Librarian – HE Library – Consortium B – Research University
Participant W	Senior Manager – Metadata Supplier
Participant X	Senior Manager – Metadata Supplier
Participant Y	Metadata Librarian – Metadata Supplier
Participant Z	Collections Manager – HE Library – Consortium B – Research University
Participant AA	Metadata Adviser – Purchasing Consortium
Participant BB	Senior Manager – Purchasing Consortium
Participant CC	Metadata Librarian – HE Library – Consortium B
Participant DD	Metadata Librarian – HE Library – Consortium B – Research University
Participant EE	Metadata Librarian – E-book Supplier

Table 1: Details of participants

The first consortium (Consortium A) constitutes 13 member institutions and was selected for this research because their involvement with the NBK and their procurement of a shared LMS, showed that there was a strong interest in co-operative cataloguing within the consortium and this could provide rich data. Initial

contact was made with the Chair of the consortium and a preliminary online meeting was arranged to discuss the aim of the research and how potential participants within the consortium would be contacted. The data from Consortium A pointed to a small but strong community of metadata staff who had robust channels of communication and met regularly. The decision was therefore taken to engage with a larger consortium that also shared data with the NBK and for these reasons Consortium B, which is comprised of 55 organisations, was selected. An initial meeting with the Chair was organised to explain the research and to consider how to contact possible participants.

3.5.2 Memo-writing

Memo-writing was used throughout the research process, including during the production of maps through situational analysis. Memo-writing supports the research process as it encourages you to “stop and analyze your ideas about the codes in any – and every – way that occurs to you during the moment” (Charmaz, 2014, p.162). The examples below are extracts from memos written at different stages of the research the, earlier memos were referred back to in order to inform the process of situational analysis, further memos were written after each mapping session.

‘Participant L reflected on their time as a cataloguer before moving into a management role. They described themselves as a ‘rebellious cataloguer’ because others seemed too focused on the rules and detail of cataloguing that they lost sight of other important aspects such as throughput and outcomes. They talked to me about the difference between perfectionism and what is good enough to do the job. There was also a sense that were some tensions with some metadata staff within their team who described

themselves as perfectionists. Participant L also highlighted the importance of having good quality and consistent metadata and that without it assets can be lost, but they went back to questioning the means of achieving this and said that other libraries streamlined the cataloguing process by triaging records and if they are good enough then left them as is and focused on things that actually need editing. They seemed frustrated that the aim for perfectionism was taking up time that could be spent on other tasks.’ (Extract of Memo - 20211001)

‘The positions set out in the map raise questions about what is good enough, the issue of time spent on correcting or enriching records is apparent, with both cataloguing staff and managers being aware of the limits on time. The use of automation to streamline quality assurance is also mentioned, with the idea of using the LMS to triage records. Looking back though the data there seem to be some tensions over what constitutes good enough and the level of fullness of detail needed to ensure discoverability. There was also a sense that managers might not be aware of how sparse some of the received records were.’ (Extract of Memo – 20221025)

The first memo was written following an interview with a manager of a HE library, the latter following the construction of a positional map on the value of cataloguing. A key point raised in both memos is the idea of triaging records as a compromise in terms of managers and metadata staff agreeing on what is good enough. The tension between these human actors is prevalent and the idea of accepting records ‘as is’ from suppliers was something that produced contrasting opinions.

3.6 Data Analysis Approaches

In constructivist research, inductive data analysis is favoured rather than deductive analysis, because the researcher “does not work with either a priori theory or variables; these are expected to emerge from the inquiry” (Lincoln & Guba, 1985, p.203). Both types of analysis selected for this research, thematic analysis and situational analysis can be utilised in inductive analysis (O’Gorman & MacIntosh, 2015).

3.6.1 Thematic Analysis

The interviews were transcribed and coded using an approach informed by thematic analysis (Braun & Clarke, 2006). This process was carried out simultaneously to data collection in order for new themes to develop and theoretical categories to be built and for these to inform adaptations or additions to the interview guides. The first phase of Thematic Analysis is a familiarisation with the data (Braun & Clarke, 2006), the decision was taken for the researcher to transcribe all of the interviews, as the process itself is a beneficial part of data analysis and a clearer understanding can be developed through the interpretive thinking and careful focus that transcription supports (Lapadat & Lindsay, 1999). Phase two of Thematic analysis is to produce the initial coding of “interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code” (Braun & Clarke, 2006, p.87). Initial coding was conducted with the support of NVivo computer software. Gerunds were applied to the names of each code as a means of identifying a stronger comprehension of processes and actions involved in the field (Charmaz, 2014; Glaser, 1978). Table 2 shows an example of initial coding:

Extract of Transcript from Participant T	Coded for
I think it's really easy for cataloguers and I can say this as a former cataloguer to get hung up on rules and to have this wonderful all singing all dancing description which actually has no value, doesn't really help anybody else, doesn't help discoverability, doesn't actually contribute very much at all so I think for me the catalogue record needs to be good enough for someone to find what they want and to understand that it's actually the thing that they want and then gain access to it and I think those are the basic principles. So quality I'm kind of wary of, I guess we all know poor quality when it's inaccurate but I suppose accuracy and quality are not necessarily the same things. Perhaps there's a notion of fullness in description and I kind of question some of those notions. That would put me probably in disagreement with my Metadata Manager, because I perhaps take a more pragmatic view than they do, that's the nature of my job I think rather than the nature of their job.	<p>Having previous cataloguing experience</p> <p>Seeing people getting addicted to the rules</p> <p>Viewing perfectionism as a characteristic of cataloguers</p> <p>Striking a balance of what is good enough</p> <p>Recognising the need for accuracy and consistency</p> <p>Questioning fullness of description</p> <p>Having differing views to metadata staff</p> <p>Taking a more pragmatic view</p>

Table 2: Initial coding

As part of the third phase, as the data was collated and coded, the codes were analysed and sorted into themes through the process of creating a codebook (Appendix F) and mind-maps, a separate mind-map was created for each theme (Appendix G). These themes were then refined in two stages for phase four; firstly by reviewing the coded extracts within each theme to establish whether they formed a clear pattern. At this stage, it was noted that some of the data needed to be rehomed in a different theme. The second step was to read the transcripts again in order to check that the themes reflect the data and to carry out further coding that was not captured initially. The fifth phase was to “define and refine” (Braun & Clarke, 2006, p.92) the themes, during this phase, sub themes were identified and memos were

used to write a coherent analysis, the themes were also renamed to make them more succinct (Braun & Clarke, 2006). The final phase was to write up the full report of the findings chapters into a clear narrative that tells the story of the data.

3.6.2 Situational Analysis

Situational analysis was expounded by Adele Clarke as means of developing grounded theory through “the interpretive turn” (Washburn, Clarke, & Friese, 2021, p.1), a phrase used to describe the changes in perspectives about “truth and knowledge production in the social sciences” (Washburn et al., 2021, p.1). This movement involved the dismissal of positivist notions of truth and concentrated on “relational, ecological, and situated understandings of meaning and the processes of social inquiry” (Washburn et al., 2021, p.1). A situation is defined by Washburn et al. (2020) more than a simple period in time or specific occurrence, it is a lasting composition of relations amongst a variety of components and all situations have their own ecosystem that can be analysed cartographically. The situation identified for this research was the bibliographic metadata ecosystem.

Once the initial findings chapter had been written, situational analysis (Clarke, 2005) was implemented as a way of diagramming the data to sense-check and explore it further in order to assist with the discussion chapter. Clarke's (2005) sequence of activities were followed including the creation of a messy situational map, an ordered situational map, relational maps, a social worlds/arenas map and positional maps. Situational maps take an approach that aids the formulation of the different elements and the investigation of links between them. Social worlds/arenas maps utilise the collective human elements/actors ascertained from the situational maps and questions what are the significant social worlds that are present. Positional maps are

applied in order to chart the stances expressed (Clarke, 2005). Comparative methods were used between the data, coding tables, initial findings and the maps in order to make clearer “analytical sense of the material” (Charmaz, 2014, p.132) and to assist in the construction of the discussion chapter.

3.6.3 The role of theory in analysis

Two main routes can be taken to detect and categorise themes during the analysis stage of research; inductive or deductive (Braun & Clarke, 2006). An inductive method allows the themes to be closely tied to the data, rather than taking a more deductive approach, which attempts to fit the data into frameworks for coding that are preconceived (Braun & Clarke, 2006). Deductive approaches such as template analysis can be beneficial in allowing an emphasis on issues significant to the research and developing theories that exist in the current literature (Brooks, McCluskey, Turley, & King, 2015). A possible drawback in deploying this approach is “some loss of holistic understanding in relation to individual accounts” (Brooks et al., 2015, p.218).

An inductive approach to thematic analysis permits the development of themes straight from the data and provides more opportunity to find novel insights that are not present in existing literature (Braun & Clarke, 2006). As this research is constructivist in its methodology, an inductive and more “data-driven” (Braun & Clarke, 2006, p.83) style was taken and theory was then used as a lens to view the results, as well as theorising from the data to see patterns, once inductive analysis had taken place.

3.7 Trustworthiness of the research

Quantitative research proposes to “describe, predict, and verify empirical relationships in relatively controlled settings. On the other hand, qualitative research aims to explore, discover and understand” (Tolley, 2016, p.35). It is considered that the criteria of validity and reliability that are traditionally applied to quantitative research, have limited significance to qualitative methods and therefore alternative terms such as credibility and dependability should be implemented (Corbin & Strauss, 2008; Lincoln & Guba, 1985).

As this research was guided by a constructivist ontology, Lincoln & Guba's (1985) criteria for evaluation was considered throughout the process. The overarching principle for assessing an inquiry is being able to demonstrate trustworthiness; this is further developed into four conditions: credibility, transferability, dependability and confirmability. These four standards were taken into account during the entire course of the study and a number of measures were taken to fulfil them.

3.7.1 Credibility

Data collection for this study was conducted over a sustained period of 13 months from June 2021 to June 2022. The interviews and concurrent analysis of them as well as the keeping of memos has facilitated the building of a robust understanding of the field. A total of 31 interviews were carried out with a wide range of participants from across the bibliographic metadata ecosystem, including senior managers and metadata staff within two academic library consortia, e-book suppliers and metadata intermediaries. As thematic analysis and memo writing were undertaken

simultaneously to the interviews, this assisted with adapting the questions participants were asked to considered as data collection progressed, therefore adding to the richness and depth of the observations made. Throughout the process, comparisons were made between the data and the themes that developed; these were reflected in memos that contributed to the findings. There are strong ties between the themes that developed, the arguments put forward and the data that was collected.

3.7.2 Transferability

Determining transferability differs greatly from the positivist measurement of external validity and it thought that the former is unattainable. Traditional research methods involve making strict reports regarding external validity, whereas constructivist inquiry relies “thick description” of the situation in which the findings were made (Lincoln & Guba, 1985). The question of transferability is “do the findings include enough “thick description” for readers to assess the potential transferability, appropriateness for their own settings?” (Miles & Huberman, 1994, p.279) The notion of thick description entails comprehending and the actions of the participants and the situation in which they are operating as well as meanings of their behaviour (Ponterotto, 2006; Ryle, 1971).

For this study, prolonged engagement in the field assisted the researcher in gaining a clearer understanding of the context and as discussed in Section 4.5.2, detailed memos were written throughout the research process to assist in drawing out the explicit and implicit meanings as well as the connections within the data that was being analysed. These memos, along with direct quotes from participants form the

findings chapters, giving rich detail to the factors influencing the participants within the situation. Within the discussion in Chapter 7, these findings are interpreted and their meaning within existing theory is explored.

3.7.3 Dependability

As validity cannot exist if there is no reliability, then it stands that credibility can only be established if dependability has been demonstrated (Guba, 1981; Lincoln & Guba, 1985). The question of dependability is whether there is consistency to the research process, are the objectives and questions well defined and aligned to the purpose of the study, was the data collected with a suitable variety of participants, and was there any assessment of the research by colleagues? (Miles & Huberman, 1994).

The research objectives and questions for this thesis were carefully structured around the aims of the study and in response to the initial literature review. In preparation for the phase of data collection, preliminary interview guides were constructed for each group of participants, with each question in the guide linking to a particular research question (Appendix H). Throughout the research process, feedback was sought from the supervision team regarding several aspects of the study including the interview guides, the codebook, the initial findings and the maps developed through situational analysis.

3.7.4 Confirmability

The key procedure for ascertaining confirmability is keeping a thorough record of the research process that can be traced as an audit trail (Lincoln & Guba, 1985; Schwandt & Halpern, 1988). Numerous steps were taken during the study to ensure that the methods undertaken can be followed, these include:

- Literature search guides for the preliminary and subsequent literature review (Appendix A)
- Keeping a record of any changes to research objectives and questions
- Compiling and adapting the interview guides
- Writing memos throughout data collection and analysis
- Keeping a codebook and mapping the developing themes through MindMaps (Appendices F and G)
- Producing handwritten and PowerPoint versions of maps developed as part of situational analysis.

3.8 Ethical considerations

The 31 participants and their experiences were crucial to this inquiry and careful attention was given by the researcher in ensuring that they felt comfortable engaging in the study (Corbin & Strauss, 2008). It is recognised that in addition to essential safeguards such as informed consent and preserving dignity, within qualitative research there is also a focus on promoting the autonomy of participants and empowering them (Carpenter, 2018). The study was conducted in accordance with the ethical principles of research that involves human participants. There was an

aspect of risk but as the participants were not considered vulnerable and the phenomenon being explored for this study was not culturally or politically delicate, it was viewed as low risk. A risk assessment was completed and an ethics proposal was approved according to the Research Ethics Policy of the University of Sheffield (University of Sheffield, 2023), prior to the collection of any data (Appendix I).

As the research entailed the reflection of participants on “their behaviour, their opinion of their role in a community, their skills and competencies” (Pickard, 2013, p.93), there was a prospect of this producing difficult reactions. The researcher was questioning the work and processes of participants, organisations, infrastructure and policies and there were be instances where participants were critical of other professionals. This was taken into account during data collection and all questions were structured around the research aim, questions and objectives with any challenging discussions being handled carefully. Participants were advised prior to data collection that they were able to decline to respond to questions or revoke their participation (Pickard, 2013). As the data collection process began during the Covid-19 pandemic, it was decided that it would be appropriate to undertake the interviews online using virtual conferencing software.

3.8.1 Anonymity and confidentiality

Within the research process, the notions of anonymity and confidentiality are strongly linked, with anonymity being a key factor in the procedure of maintaining confidentiality.(Wiles, Crow, Heath, & Charles, 2008). Confidentiality involves not disclosing personal and organisational details collected from participants and ensuring that in the writing up of research their identity remains anonymous (Wiles et

al., 2008). Within this research, measures were put in place towards preserving confidentiality:

- Only the researcher and the supervisory team discussed details that particular participants had disclosed during the interviews
- Participants' names and precise job roles were omitted from the final thesis
- Any information that would reveal the exact place of work of participants was removed

One issue that arose in that writing up of the findings was deciding whether to include findings that were pertinent to the research that could possibly mean that one of the consortia was identifiable, or whether to remove it (Baez, 2002). Ultimately, the decision was taken to keep the data in the final report as it did not pose a risk of identifying individual participants or their particular institutions and omitting it would have presented uncertainties about the credibility of the research (Baez, 2002).

3.8.2 Informed consent

Within research, it is vital that participants are fully informed about the project that they are being asked to take part in and have the capacity to choose whether they wish to contribute to the study. At an organisational level, the Chairs of both consortia were consulted about the proposed research, the approximate timelines involved and the intentions of the study. Preliminary meetings were arranged with them to discuss the aims of the research and how potential participants would be contacted. All participants completed an information and consent form (Appendix J) which they

were emailed. Before they took part in the research, they were made completely aware of the purpose of the study (Walliman, 2006). The information and consent form summarised the purpose of the research, details of the process of the interviews and specified how any data collected would be stored and processed. Participants were made aware that they could withdraw from the research at any time prior to providing feedback on the transcript. Only one potential participant decided not to take part in the project after reading the information and consent form but did not give a specific reason.

3.8.3 Research data management

The management of research data is essential in keeping it organised and secure, it also raises attention to possible data issues that could occur during the study (University of Sheffield, 2023). As part of the ethics application, a data management plan was completed (Appendix K). All data was named in accordance with the University of Queensland's Division of Technology, Information and Learning Support (TILS) File Naming Convention (University of Queensland, 2015). The recordings of the interviews, the transcripts and the maps created as part of the analysis were stored securely on an encrypted laptop as well as being uploaded to the university storage space. The codes and transcripts were stored in NVivo as well as a back-up being stored in the university storage space.

Once the research was completed and assessed, the thesis was stored in WREO, the White Rose thesis repository, subject to anonymisation, and gaining permission and consent from participants. All working data was deleted once the thesis was deposited in WREO.

Chapter Four: Findings

Chapter Four presents the initial findings that developed through the thematic analysis of the data as described in Section 3.6.1. The chapter comprises seven key themes; advocating the value of cataloguing, collaborating and speaking out, maintaining relationships with suppliers, assessing workflows, striving for quality, changing perceptions of library collections and considering the future of cataloguing.

4.1 Advocating the value of cataloguing

A major theme that developed from the in-depth interviews with HE library staff and e-book suppliers was around “advocating the value of cataloguing”. The need to raise the awareness of other library colleagues about the work that cataloguers do and the value of it was advocated by participants. Tensions were also evident between library managers and cataloguing staff as to what constitutes a record being ‘good enough’, with some senior managers expressing concern that too much correcting and enhancing of records is being carried out by cataloguing staff, whereas many of those working in technical departments felt that having as much information as possible in records would help users to discover resources more easily.

4.1.1 Seeing the value of cataloguing

Despite there being differing views on what cataloguing should entail, there was a sense that cataloguing is strongly valued by both management and cataloguers in Higher Education libraries and by e-book suppliers. Cataloguing was highlighted as a vital service by e-book suppliers that needs to be performed correctly so that the libraries as customers are not wasting resources on enhancing records:

“we’re performing a service for our customers that if we don’t do that right they will need to spend money and time redoing what we gave them and our goal is to offer services that make our customers lives more efficient as opposed to having them do double work.” (Participant D, Senior Manager – E-book Aggregator)

E-book suppliers and HE library managers both also commented on the sheer volume of e-book collections and that although the scale of the packages means that the nature of cataloguing work was changing, it is still vital:

“being able to look at millions and millions of titles and how do we associate those? How do we make them discoverable, how do we make sure that students have access to them?...All of that when you start looking at it at scale is just so tremendously large, having that structure and a lot of that is based off the cataloguing framework, it’s just really important.” (Participant K – Senior Manager – E-book Aggregator)

Although management in Higher Education libraries recognised the value of cataloguing and the need for accurate metadata, there were questions raised by some senior managers about the actual process of accomplishing this:

“I do absolutely agree that there needs to be consistent, good quality data. I think sometimes, what I think I'm challenging more is not that principle but I think it's sometimes the means in which you achieve that is what I am probably challenging more.” (Participant L – Senior Manager – HE Library)

The above participant was alluding to the suspicions that some senior managers have that more enhancing and correcting of records is being carried out by cataloguers than they think is necessary and there appeared to be some tensions between participants surrounding what is necessary.

4.1.2 Being unsure if colleagues recognise the value of cataloguing

The participants raised the question of whether people outside of cataloguing appreciate its value, both cataloguing staff and senior managers discussed aspects surrounding a lack of awareness of the work carried out by technical departments, that frontline staff in particular are not well informed about the value of cataloguing because it “is a bit of a hidden service, it isn't kind of front and centre” (Participant C).¹⁷ There was a notion that it is “quite a niche area of librarianship for a lot of people and so it's like ‘oh, they just do that thing’ and it's very much associated with print and book in hand” (Participant E). Therefore, because cataloguing is not customer facing there is a feeling that it is almost dismissed, views of it are outdated and the work on digital materials is not considered:

¹⁷ Also appears in (Edwards, 2022) - see Declaration for full details

“It's probably a very undervalued thing. I should imagine most people just assume that bibliographic data is just sort of there and appears from nowhere and don't appreciate the professionalism and sort of knowledge that is behind creating records for people to find the information they want...Probably undervalued by those outside the immediate cataloguing sphere and suppliers sphere” (Participant G – Metadata Librarian – HE Library)

Senior managers reflected on their own recognition of the importance of metadata and it being right at the core of the service that libraries provide, which is the delivery of information resources:

“that provision of information is no good if people can't find things and know what you've got and be able to access them, securely, safely, easily. All of those things run from a basic premise of understanding what you've got which is described in the catalogue record.” (Participant C – Senior Manager – HE Library)¹⁸

Some cataloguing staff considered how to raise the profile of their department and the work that they do, in terms of everyday service for library users. It was suggested that cataloguers' work goes unnoticed unless something is wrong or something cannot be located. This is an indicator of invisible infrastructures (Appadurai, 2014; Karasti & Blomberg, 2018; Star & Ruhleder, 1996) and is explored in more detail in Chapter 6. There was a sense that “the only feedback we get is complaints” (Participant Z) and that cataloguing was only brought to the forefront if something was missing:

¹⁸ Also appears in (Edwards, 2022) - see Declaration for full details

“It's trying to raise awareness of it if someone tells me ‘ooh, I can't find this in Primo’...if something's not working which is generally when you hear from people in life generally, then generally there will be an explanation for it, it's not doing it just for the hell of it, it's either not got the metadata it needs to properly do the search and bring the results back or there's some kind of tweak that we need to make back of house”. (Participant B – Metadata Librarian – HE Library)

The Covid-19 pandemic was stipulated as a reason for front-line staff having less contact with cataloguing departments and if new members of staff have started during this time then they have little or no communication with metadata staff:

“I think there's a lot of staff now who perhaps during the last couple of years, especially during the pandemic who have had absolutely no contact with the cataloguing department and generally we're in a different building, we not in the library. So I have felt sometimes over the years there's been less and less contact and people don't really understand what goes on they don't really know who's in cataloguing or the collection management department and how it works”. (Participant Q – Metadata Librarian – HE Library)

The bigger picture of sharing metadata about an institution's holdings with the wider community was also emphasised. Participants highlighted the importance of “getting your data out there as an asset” (Participant E) that is being surfaced in WorldCat and the National Bibliographic Database to promote the resources that the library has to offer. Promoting this to senior university management outside of the library was suggested as a way of raising awareness but there was a view that value was not assumed and the case did

need to be argued.¹⁹ The impression of having to explain the value of MARC records was also present in the in-depth interviews conducted with e-book suppliers:

“I feel like I spend, probably 20% of my work life explaining to people why they're valuable, we had our former, what was his title? I think...he was one of the highest ranking officials...every time he saw me he would challenge me to explain to him why MARC records were important and what we needed them for and I would valiantly give it my best, he wasn't buying it all the time but at least he understood what I was saying, he didn't necessarily agree but I do feel that it is, cataloguing plays an important role in understanding what is in a resource and making sure it's accessible.” (Participant H – Senior Manager – E-book Aggregator)

There appeared to be frustration that the importance of MARC records needs to be reiterated and some concern that managers do not always place the same value on cataloguing and the ramifications that this might have in terms of job security. Cataloguers were described as a “dying breed” (Participant M) who were having to learn new skills in other areas.

4.1.3 Going unnoticed

Both manager and metadata staff in HE libraries felt that cataloguing work was often overlooked by library users, because they were not aware of the effort that is put into making their searching experience as frictionless as possible:

¹⁹ Also appears in (Edwards, 2022) - see Declaration for full details

“they probably don't even realise, the problem is the more you do, the less people know that you've done it because it makes it more seamless to find and that's what we're here for, we're here for people to find the information whether it's a physical or an e-book. So the better you're making their searching experience by enhancing the records or having subject headings etc...so they're picking up on things by doing keyword searches or whatever, the more data you're putting, it's helping it be more seamless for the end-user.” (Participant Q – Metadata Librarian – HE Library)

There was a sense that cataloguing work goes unnoticed if it works well and that library users in particular only provided feedback about the library catalogue or discovery layer if they could not find what they needed. This reiterates that invisible infrastructures are present within HE libraries (Star & Ruhleder, 1996; Star & Strauss, 1999), this is expanded upon in the discussion chapter.

4.1.4 Having a small team and feeling isolated

The responsibility for cataloguing within higher education libraries seemed to be shifting as it is recognised more as a specialist role. There has been a tradition that subject librarians perform cataloguing tasks, but that appeared to be changing with these duties now being undertaken by specialist staff:

“many institutions still rely on subject librarians to do the cataloguing and I wouldn't want to criticise that at all but for our institution and I think when you speak to...a couple of others...we've taken it out of the subject librarian role we did that four or five years ago and it now sits with specialists” (Participant A – Senior Manager – HE Library)

The shift away from subject librarians performing cataloguing goes hand in hand with restructuring and for some institutions this means fewer staff members being responsible for bibliographic metadata:

“they decided to change the structure of all the teams and whereas before all of the subject librarians were doing a bit of cataloguing in different subject areas, they decided that there would be just one person responsible for doing the cataloguing and that fell to me.” (Participant M – Metadata Librarian – HE Library)

There was a sense that cataloguing teams have shrunk, participants reported having very few colleagues within their department or just being the only person responsible for bibliographic metadata. Some also stated that they had additional duties, cataloguing was therefore at risk of becoming marginalised. The reduction in cataloguing staff has been in conjunction with several institutions moving to shelf-ready records and a more automated, streamlined approach to cope with budgetary pressures. It is recognised that for many higher education libraries, in-house cataloguing at scale is no longer an option:

“We probably haven't got that capacity to do this manually ourselves any more; the staff costs would be huge.” (Participant C – Senior Manager – HE Library)

“our cataloguing team has got smaller over time...not drastically it was always small but I think it's gone from about three to two people and that because we eliminated some of the manual workarounds that we were doing or we bought in records.”
(Participant R – Senior Manager – HE Library)

Metadata staff discussed in detail the implications of this in terms of the records being supplied varying in standard with some only having a brief title and ISBN and no authority control. There was a sense that some cataloguers felt that they should not be having to spend the time “chipping away at things like authority maintenance at a local level” (Participant B). Participants talked about not having the staffing or the time to be correct such errors and felt that these types of inaccuracies should not be appearing in the records that they receive. There was also concern about not having the resources to deal directly with publishers and aggregators to manage one-to-one relationships, but instead using Alma’s Community Zone to access datasets for e-books.

The Higher Education metadata staff who participated in the research all belong to library consortia and some expressed the importance of connections with others as a way of combating feelings of isolation, to know that others are having similar experiences and to be able to discuss ideas:

“A lot of us are the only people responsible for metadata or cataloguing in our institutions, so these kinds of networks are absolutely crucial because otherwise you can feel a little bit like a voice in the wilderness (LAUGHS) even in your own institution, let alone at a wider level.” (Participant B – Metadata Librarian – HE Library)

Working in small teams, many cataloguers felt that it was still important to champion the value of their work and to keep making a stand when it comes to the quality of metadata and “pop our heads above the parapet” (Participant E).

4.1.5 Evolving views on cataloguing

Several participants who work in senior management roles in HE libraries have previously worked in cataloguing. Those who have had that experience, felt that it did influence their attitudes towards the value of cataloguing. There were some who felt that it gave them a stronger appreciation of the work that their metadata teams carry out:

“Oh gosh, having done cataloguing many, many years ago I now look back in horror I think (LAUGHS) at some of my cataloguing and I'm not sure that it would pass the test nowadays and certainly not with our cataloguers.” (Participant A – Senior Manager – HE Library)

Some senior managers talked about how other factors are considered in their views toward the value of cataloguing, such as the cost benefits, bottom lines and the need for a record to be just ‘good enough’:

“my first professional post when I qualified as a librarian, I was cataloguing in a university library, so I had a particular view which was ‘I need to do this right and I need to do this wonderful description of this particular item that’s sitting in my hands’. Moving through, more in management in metadata, becoming much more pragmatic about the view that there’s such a thing as good enough.” (Participant T – Senior Manager – HE Library)

There appeared to be some tensions between senior managers wanting ‘good enough’ to be ‘good enough’ but feeling that some cataloguers were concentrating too much on perfectionism:

“My background as I say was originally cataloguing, I've always been a bit of a slightly rebellious cataloguer, partly because I have seen so many people really become such an addict to the rules that sometimes they forget the output and the outcomes...I don't wish to decry cataloguers but I've just through my experience have known a few who are very, very focused on such an attention to detail that the bigger picture gets a bit blurred.” – (Participant L – Senior Manager – HE Library)

Cataloguing staff both at Higher Education libraries and e-book suppliers emphasised how their attitudes towards the value of cataloguing have changed throughout their career. Some had worked in more customer facing roles before moving into cataloguing and felt that they previously had a lack of awareness and appreciation for the work that cataloguers do:

“When I worked in public libraries I'd no idea of the scale and value involved and I probably took it for granted and just thought that they came from suppliers and just went on the catalogue, I didn't appreciate the necessity for the sort of checking and enhancing that's required really.” – (Participant G – Metadata Librarian – HE Library)

This reiterated the concerns previously mentioned in this chapter about other library colleagues not necessarily appreciating the value of cataloguing or being aware of the work that metadata departments carry out.

4.1.6 Recognising tensions surrounding what is 'good enough'

One of the issues highlighted by senior managers in Higher Education libraries was the time spent by cataloguers on creating perfect records, the cost benefit of this and whether it is efficient. The importance of discovery was recognised but also the need for a balance between fastidiousness and productivity:

“I have to operate in a context where I've got to provide value for money and efficiency. So, whatever I provide, I've got to provide the cost benefit so I would argue it's less about providing perfect records than providing records that are good enough for the context we're using them in. So a record that enables us to do all of the collection management stuff that we need to do and a record that more importantly enables the user to find, access and use material, those are the critical bits to me.” (Participant C – Senior Manager – HE Library)

The importance of satisfying customers' needs and getting them access to the resources as swiftly as possible is also emphasised as a reason for not needing records to be completely perfect as this was viewed as time consuming:

“It is around the discoverability and having records that are good enough for people to find what they need but also that balance between obviously being able to make things discoverable in the first place so if you're spending a lot of time creating perfect records, there may be lots of other stuff that you need to make discoverable and the workload means you're just not getting around to it, throughput is important as well, I think there's finding that balance of good enough records and good throughput so that things can quickly be made available and made discoverable.”

(Participant N – Senior Manager – HE Library)

This has been made more prevalent with e-books as they can be made available to libraries on the same day that they are purchased and therefore need to be made accessible to users more rapidly than print books. The scale of e-book packages also appears to be paramount in decisions made regarding how much time and effort should initially be spent on vendor-supplied records and as these have expanded in size, checking each one by hand has become unfeasible:

“I remember the first e-books we had were a collection of 100, and we thought that was huge and we wouldn't let records onto the catalogue until they'd been edited. So, we had a separate database and downloaded them internally and edited and I carried on doing that kind of approach but when we had about 5000 records we just about did it but it was unsustainable because we realised that the second half of them were not visible on there for months.” (Participant Z – Collections Manager – HE Library)

The tensions were also expressed by cataloguing staff, there was concern about what is 'good enough' and what is 'fit for purpose'. Cataloguers felt that creating metadata was integral to the bigger picture and needed to be done correctly:

“There is a cost to metadata, there is a cost to it, it's a commodity so it's worth doing properly because if you do it properly in the first place you're not having to constantly go back and review records...you've got to be a bit careful about this "oh when is enough is enough? What's a perfect record?" Well, I tell you what go and have a look at your catalogue if you can see lots of records, if you come across them and think 'what the hell is that?' Then that's telling you that the wrong decision was made at that point in time (LAUGHS).” (Participant B – Metadata Librarian – HE Library)

The shift to digital resources was highlighted as a key factor in making discoverability more critical because of no longer having a physical item that you can retrieve from a particular place. E-book suppliers also recognised that if the metadata they supplied was not sufficient and content was not getting used because it was not discoverable, then libraries might not be willing to pay for it:

“If MARC records for example are not high quality or we're not providing the right kind of URLs or that type of data then that content is not going to be visible or searchable in university library management system and then the students are not going to read it, access it and then of course for us it is not great because then they pay for content and then it's not used so they're not going to renew it, because it doesn't make much sense for a university to pay for something that is not used” – (Participant I – Senior Manager – E-book Supplier)

E-book suppliers acknowledged that “the whole purchase is pointless” (Participant F) if users are unable to locate the resources that they require. This point was also highlighted by some higher education library staff who emphasised the importance of discoverability in terms of getting value for money from the resources purchased:

“fundamentally if you don't have good quality data, you're dealing with lost assets in some shape or form. You've either bought material students should be using but they can't use because they can't find it or we're trying to sort of reinvent wheels or we can't sort of standardise practice because we can't see the wholeness of all that we've got. So on that front, you know I think it's really, really important.” (Participant L – Senior Manager – HE Library)

Cataloguing staff in Higher Education libraries considered the different ways in which users search for resources and that if they are just browsing or using keywords then more than just a title and ISBN are required:

“some people know exactly what they're looking for and they'll search that in the catalogue whereas other they just kind of use the method of serendipity don't they?... I'm trying to make it as easy as possible for people to find the resources that they need and the more information you can put into the catalogue record the easier that is, and I do find that important.” (Participant M – Metadata Librarian – HE Library)

Cataloguers felt that contents fields and the 776 field which links digital and print books are important to have in a record so that users who are browsing can identify resources more easily, but they were also fully aware that this process is time consuming and not always viable:

“you can't spend all day on one thing and there are other calls on your time. For instance, I wouldn't routinely add a contents note for a record because if I can found one from somebody else, that's great, I will add it but won't necessarily sit down and transcribe a whole contents note.” (Participant Q – Metadata Librarian – HE Library)

Metadata staff were aware of time pressures and the need for efficiency and that sometimes there had to be compromise in terms of enhancing records, this emphasises the tensions surrounding what is 'good enough' and the balance there had to be in terms of throughput. This notion of sufficing is developed further in Chapter Six, which explores how the curation and stewardship of collections are changing in the digital age (Dempsey et al., 2014) and how Booth's (2020) report and suggested standards could be considered as a compromise.

4.1.7 Recognising the value of cataloguing from a end-users' point of view

In terms of the minimum standards of what should be in a MARC record, the majority of participants were in agreement that it had to be considered from the perspective of end-users and what is of value to them in being able to find and access the resources they require:

“Yes, we need to spend a little while learning whether it's a comma or a semi-colon at the end of subfield...but how much value is that for the user do they really care that it looks proper on the library management system? It's more important that they find stuff, I think I've gradually refined my view that it's got to be good for the user, entry points are important so that they can find stuff.” (Participant CC – Metadata Librarian – HE Library)

There was a sense that perfect punctuation and indicators in records were a luxury that the end-users will not necessarily notice and “getting all the square brackets in the right place on a 264 \$c doesn't matter so much because no-one really knows what it means” (Participant Z). However, the key entry points and authorities were viewed as essential because of the way in which end-users prefer to search through title, author, publication date and subject. As already highlighted in Section 4.1.4, there were concerns from metadata staff that records being supplied did not always have the correct authority control and that these were elements that would need correcting.

4.1.8 Viewing perfectionism as a characteristic of cataloguers

It was recognised by several participants that perfectionism is a key characteristic of metadata staff, those who worked in cataloguing departments felt that this was vital to their role and that order and consistency are essential in library catalogues:

“you're probably discovering that I'm quite anal when it comes to catalogue records [BOTH LAUGH] which is a helpful trait because you do need to have attention to detail when you're cataloguing resources.” (Participant M – Metadata Librarian – HE Library)

Metadata staff described enjoying the intricacy of cataloguing and getting it right, they considered this meticulousness to be fundamental to creating quality metadata and explained why this in itself was essential to discovery:

“as a cataloguer, I like things to be done properly. I like it being decent, I don't like it just being something like 'oh, you only need the title and the ISBN' - No! You need to have the full information. So we're performing quality control so that it's findable...it's going to be around for a long time, the metadata is going to be around so we want to make sure it's as good as you can make it and so in the future it's still going to be useable.” (Participant Q – Metadata Librarian – HE Library)

The professional identity of metadata staff is discussed further in Section 6.1 as the traditional and stereotypical views of them add to the tension surrounding what is good enough (Banush, 2008; Brice & Shanley-Roberts, 2009; Weng & Ackerman, 2017). Senior managers in HE libraries appreciated the commitment of metadata staff and recognised the

importance of perfectionism for them, but they also reiterated the importance of throughput and the restrictiveness of timescales:

“One of the things that's admirable and challenging about librarians is we want to do things perfectly and because of resources, because of the pressures on our time, we have had to think very carefully about it and actually, if a book isn't going on to the shelves for several weeks or months, because we trying to get everything about it in cataloguing right, then that isn't actually helping our students. So I would say we have supported the collections team and the cataloguing team in doing their job but there have been honest conversations about what is good enough within our resources constraints. So it is definitely a balance but if there's something that needs to go it's not the student support aspect, it's the perfectionism of the librarians.”

(Participant R – Senior Manager – HE Library)

There was a sense from senior managers that there needs to be a change in attitudes towards cataloguing because of the way in which resources are now delivered. Senior managers felt that there were at times differing opinions about fullness of description in records between themselves and their cataloguing departments and that their view was more pragmatic. This tension was reiterated by metadata intermediaries who recognised that a perfectionist approach was a feature of the cataloguing profession but that this could cause some friction:

“there is and always has been in fact an excessive focus gold plated records or gilded approach to what's needed. I think it's been a source of frustration particularly for leadership in libraries that that seems to be an approach. I think it's always been the case and I think maybe it something to do the nature of the work. I think it's a mind-set, a hearts and minds thing that we just have to work away on.” (Participant J – Senior Manager – Metadata Intermediary)

This echoed the views of senior managers in HE libraries that metadata staff's viewpoints surrounding perfectionism may need to adapt to be more aligned to the way in which resources are delivered and to cope with the scale of packages that libraries purchase.

Senior Managers in HE libraries felt that although pristine catalogues might have been a goal that was aspired to in the past, it has never completely achievable because of a lack of resources:

“I think that's changed a lot in the last ten years or so, I can remember that the idea that you'd have a perfect catalogue was almost an obtainable thing and I think that's changed an awful lot I think we're thinking a lot more about the good enough will be good enough in lots of cases.” (Participant Z – Collections Manager – HE Library)

4.1.9 Increasing the focus on metadata because of the Covid-19 pandemic

The recent Covid-19 pandemic has accelerated the shift towards more digital collections in higher education libraries, as the national lockdowns meant that they could only provide access to electronic resources. Senior library managers stated that during this time, cataloguers' work was more focused on supporting electronic access by “loading in the catalogue records for the new e-resources we were purchasing and making sure that those

were available and fit for purpose” (Participant N). Some cataloguers felt that the high demand for e-resources means that universities are doing more to ensure that they are discoverable and records are to a particular standard:

“I think people are realising that they need it to be a certain level for a certain audience...that's really important at that moment but the instantaneousness of an e-book especially means that we need to have that information that users need the moment that it's live, you know we can't sort of be waiting for that to come later...So I think you can see that there is generally I think more value being placed on it.”

(Participant E – Metadata Librarian – HE Library)

As well as thinking that there was more value being placed on metadata, there was a sense that because of the immediacy of e-books, the records being received from suppliers needed to be fit for purpose so that users can discover and access them as soon as they are purchased. Metadata intermediaries highlight that the pandemic has raised awareness of this at a national level:

“there is more of a sense now in this last year or two somewhat to do with these national discussions that we've been having around metadata about the need for it to be in there contractually, it is a bit more in a sense hard to contractually build in a requirement for a certain level of purpose around the metadata, but none the less if the metadata is deemed to be unsatisfactory and people are not happy with what comes their way despite the fact that the prices are high then that dissatisfaction is certainly not in the publisher's interest so I think it's more in scope in the discussion

these days than it used to be.” (Participant J – Senior Manager – Metadata Intermediary)

There was recognition that fit for purpose metadata is a matter that should concern everyone in the bibliographic ecosystem and the issue was raised about the high cost of e-books and that this is even more problematic if the resources purchased cannot be found by users.

4.1.10 Conclusion

There was a sense that cataloguing is valued by senior managers and technical staff but that there seemed to be differing ideas of what cataloguing should entail, this caused some tensions between senior managers and metadata staff around what should be deemed ‘good enough’ for discoverability. Some senior managers expressed concern about too much time being taken on enriching records and stated that throughput should be more of a focus. Cataloguers felt that metadata was worth getting right and that some of the records they received did need enhancing because they did not have enough information about the resources in them, sometimes having just a title and an ISBN.

Cataloguing was described as a hidden service that is not front and centre and therefore goes unnoticed. Some doubt was expressed about whether colleagues in other departments appreciated the value of cataloguing and participants reflected on how to raise awareness of metadata work.

Being part of a consortia was important for many participants to be able to share experiences and ideas and to feel less isolated as well as helping them to get their voice heard. This is discussed further in findings in the next section.

4.2 Collaborating and speaking out

From conducting in-depth interviews with participants from Higher Education libraries as well as metadata and e-book suppliers, a key theme that developed was “collaborating and speaking out.” There was a sense that sharing ideas and learning from each other was a characteristic of the information profession and that wanting to improve services for users was the desired outcome of such practices. However, there were key differences between the two consortia that were part of this study in terms of the support given to communities of practice for metadata staff.

4.2.1 Being involved with cataloguing organisations

Participants from e-book suppliers considered the importance of staff being involved with cataloguing organisations for keeping up to date with changes in the bibliographic metadata ecosystem and having input into them. It was felt that having these connections has a beneficial impact on workflows and adaptations can be made as a result of feedback:²⁰

“we want to be out in the industry talking to partners, not just looking at their metadata because we want to build a relationship that makes more of our work more efficient and these organisations allow us to have these relationships.” (Participant D – Senior Manager – E-book Supplier)

E-book suppliers that participated in the research also stated that they were involved with NISO and highlighted the significance of a NISO report published in February 2022 on e-book bibliographic metadata requirements. There was optimism that the recommendations

²⁰ Also appears in (Edwards, 2022) - see Declaration for full details

from this will help to improve the metadata throughout the supply chain.²¹ There was a sense that being involved with NISO committees was a way of contributing to the community:

“I have been on several NISO committees where I am often working with several librarians of different types, sometimes they're technical services, sometimes they are more involved with the MARC records specifically.” (Participant H – Senior Manager – E-book Supplier)

For e-book suppliers, being able to work with other constituents of the supply chain was key to refining the system, “looking at pain points” (Participant D) and finding ways of providing a better service for all stakeholders. Metadata suppliers who participated in this research also stated that they contributed to a wide variety of committees both nationally and internationally:

“We're actually members of all the professional bodies, we sit on an awful lot of standards committees as well, around metadata primarily...we're actually plugged into a lot of places, so I sit on the NAG committee, we've got representations on the metadata group in the UK, IFLA, the Dewey Committee.” (Participant X – Senior Manager – Metadata Supplier)

The rationale for engaging with these boards was for keeping up-to-date with the latest developments in metadata standards as well as contributing to enhancements of best practice and building strong contacts with other professionals within the metadata community.

²¹ Also appears in (Edwards, 2022) - see Declaration for full details

4.2.2 Collaborating being strong in libraries

Within the Higher Education library sector there appeared to be strong support for collaborating at a management level at both consortia involved in this research. The feeling was that collaborating comes naturally to information professionals, as it is a key factor of how they identify themselves within their role that wanting to support other people is an important motivation:

“I think there’s something that’s quite hard to disassociate from wanting to be in the information profession in the first place, a lot of what we do is about providing people with information, it’s about helping people to develop and to study and to do whatever, provide people with the resources that they need to achieve. So what motivates me is that same thing, it’s about me trying to find those answers elsewhere or helping other people to find those answers themselves.” (Participant S – Collections Manager – HE Library)

This points to librarians feeling a requirement to contribute and to give something back the profession (McLure Wasko & Faraj, 2000), and is explored in Chapter Six. Participants mentioned the advantages of collaborating and the idea of helping others to solve problems by sharing good practice, there was as a sense of a strong community, not just between institutions in the same consortia. The value of not working alone on projects and being able to refer to colleagues for knowledge and experience was highlighted:

“I think that’s one thing that struck me when I first came into academic libraries just how strong that collaboration was and the benefits there were evident to me, that we got better solutions to problems by working together than we did by taking a sort of

silo mentality and having to reinvent the wheel as an individual university library.”

(Participant N – Senior Manager – HE Library)

There was a notion that libraries worked better together and had a stronger voice as well as more negotiating power if they functioned collectively, senior managers in HE Libraries also recognised that the different experiences of institutions within a consortia played an important role in this:

“libraries can't act on their own and there are a lot of things they can't do on their own and perhaps shouldn't do on their own, it's more than the hive mind and that the whole is greater than the sum of its parts I think working collectively is to its advantage...Also, I think the other key strength, unlike something like RLUK of which my institution is a member where effectively everyone's the same kind of institution, that's a somewhat simplistic reduction but they are, all doing the same thing, with all exactly the same agendas with all the same strategies working in the same space...The consortium is a broader church because it's got the scholarly libraries...but also big and small and I think diversity is really healthy...I think you can learn so much more from different institutions to ourselves that's the kind of dialogue I'm really interested in.” (Participant T – Senior Manager – HE Library)

It was also acknowledged that library staff from competing universities would still collaborate with each other and reach out to others to share advice and experiences:

“one of the things that I've always thought is a strength of librarians is that we're very good at networking and actually although we work for universities who may be competitors, at the librarian level there is a lot of sharing information and support for each other which is really important and helpful.” (Participant R – Senior Manager – HE Library)

Participants gave the impression that the connections they had were not just through consortia they belonged to but also through meeting more organically at conferences and training events.

4.2.3 Getting your voice heard

There was a feeling that voicing concerns about the quality of metadata was vital and that collaborating with others made this easier, particularly for staff who worked in smaller cataloguing departments:²²

“It is difficult if you're the only person doing the work or with the responsibility for the work in an institution it can be really difficult, but having said that if you look at the importance of the work that we do then we need to make a stand.” (Participant B – Metadata Librarian – HE Library)

Senior Managers in Higher Education libraries felt that having connections with information professionals in other sectors such as metadata suppliers and being part of user groups was a constructive way making strategic changes happen at a higher level.²³

²² Also appears in (Edwards, 2022) - see Declaration for full details

²³ Also appears in (Edwards, 2022) - see Declaration for full details

“the other key bit for me is to get our voice heard out in that wider community and being able to, particularly with those suppliers, being able to try and steer those conversations towards things that I know benefit us.” (Participant C – Senior Manager – HE Library)

Higher education library managers and cataloguing staff gave the impression that speaking out and being part of conversations in the wider supply chain was the most effective way of making improvements.

4.2.4 Moving to a shared LMS

One of the consortia who participated in this research use a shared Library Management System. This has produced opportunities for collaboration. A project that they have been working on is shared RDA templates for a variety of materials including e-books:

“what it's done is allowed people to talk in the same language I think which has been really helpful and obviously also with an aim to standardise records across the consortia.” (Participant A – Senior Manager – HE Library)

Cataloguing staff felt that having a shared LMS made it easier to keep track of the quality of metadata and liaise with colleagues at other institutions about issues with it:

“we're using the same systems and because we're all fighting the same battles really when it comes to aggregated data and data for e-resources in particular, it means that we can collaborate.” (Participant B – Metadata Librarian – HE Library)

There was a sense from participants within this consortium that they were able to understand each other and the issues faced and that communicating was a lot smoother as a result of sharing the LMS. Managers also recognised that the shared LMS had allowed the metadata staff to collaborate more:

“the cataloguing group...are particularly active as well now and I think the LMS has given them maybe that incentive to work more closely together because they're using the same technologies and they're experiencing the same issues, using the same system. So, I think as a general thing it's brought lots of staff closer together and it's allowed us to do things in a more structured way which we wouldn't have been able to do previously.” (Participant O – Collections Manager – HE Library)

This consortium has a specific Metadata Group that meets regularly and has set aims that are supported by the LMS, but they also discuss any issues that are arising from having a shared LMS.

4.2.5 Meeting online because of Covid-19

The Covid-19 pandemic put restrictions on travel at times, participants therefore reflected on the virtual meetings that they were having and how these differed from working in the office and being able to talk to people in-person:

“It's quite easier during the pandemic ironically, doing a call...instead of having to travel to someone just takes so much less time, although I feel that interactions online are more formal and you don't get that 'by the way' chat that you would do if you were meeting with someone, which sometimes goes into useful processes but

certainly the efficiency of just being able to have a quick call with people is really good and I've certainly done that to sense check ideas during the pandemic.”

(Participant R – Senior Manager – HE Library)

There are benefits to having meetings online in terms of convenience and saving time and but the disadvantage of talking to someone on a screen meant that some of the more informal conversations and things mentioned in passing did not always occur. Participants from Consortium A felt that the networks they already had in place, prepared them well for the switch to remote working.

4.2.6 Sharing experiences of suppliers

Cataloguing staff at Higher Education Libraries found it useful to talk to their colleagues about particular issues they were having with records or metadata, especially if some anomalies raise questions about what is good practice:

“I remember finding out that 505s, the contents notes and summaries in the 520s were stripped from records before we had them from one supplier and I was like 'well could you leave them in?'...'I guess we could!' Why was that happening? That's kind of odd...and I spoke to some people at Jisc and some consortium colleagues”

(Participant E – Metadata Librarian – HE Library)

There was a sense that having colleagues within a consortium was useful in terms of having a sounding board for experiences of suppliers, but also to know that others were in the same situation and that joining forces to solve problems and to communicate issues to suppliers:

“certainly the quality of e-book metadata is a reoccurring theme...so it's good to know that you've got people in the consortium behind you, you know if you are having problems and to know that everyone has the same problems, you're not alone.”

(Participant G – Metadata Librarian – HE Library)

Within one consortium, some managers spoke about being members of RLUK groups and so looking outside their local consortium to form connections and to share experiences of suppliers:

“we talk about these types of issues so it would be how suppliers are doing and generally what we are doing...e-textbooks are a big issue as well because of the costing of e-textbooks.” (Participant U – Collections Manager – HE Library)

There was a sense from the participants that there was a difference between the two regional consortia in terms of how they shared experiences, one seemed to have more robust connections between metadata staff at different universities whereas the other consortium did not have links that were as strong and did not facilitate a community of practice specifically for metadata staff:

“When I started in the role three years ago I was trying to get my head around the metadata side of things, primarily because we were trying to set up a regional special interest group for cataloguers because there wasn't really one...but based upon the way that they do things, it seems that there isn't that much scope for special interest groups within it...the impression I get is that they're very much more focused on professional development and training for those kinds of skills rather than discussing metadata as a whole.” (Participant DD – Metadata Librarian – HE Library)

Metadata staff from Consortium B who participated in the research spoke of the lack of connections with other metadata colleagues within the consortium and that their library being part of the larger group, did not influence their role. However, they appreciated the training and continuing professional development opportunities that they were offered through the consortium.

4.2.7 Joining a community of practice outside the consortium

Some of the participants from Consortium B spoke about a special interest group that had been set up for their region, separate to the consortium so that they could benefit from having connections with other metadata staff who worked in the same geographical area:

“so far all we've been doing is having online coffee mornings where we just chat and talk about the various issues we might have a topic to discuss, talking about the problems confronting us metadata wise, there's a little bit of discussion on the email list about things.” (Participant DD – Metadata Librarian – HE Library)

“that's been really useful to bounce off ideas especially around these kind of ideas, so Plan M, anything around Alma, paying for shelf-ready and anything like that, people are a lot more on top of the e-book metadata standards work and trying to get that more formalised into contracts.” (Participant Z – Collections Manager – HE Library)

This community of practice was initiated in response to metadata groups that were part of consortia in other regions such as The Mercian Collaboration and Academic Libraries North. It acts as an informal platform through which metadata staff can share ideas and discuss similar issues that they are facing. The differences between the communities of practice for

metadata staff in each consortium are discussed further in Section 6.1, particularly the implications of one being more institutionalised (Brown & Duguid, 1991; Wenger et al., 2002).

4.2.8 Sharing good practice

As highlighted in Section 4.2.4, at one of the consortia that participated in the research, connections between metadata staff at different institutions was very strong, they met regularly to share experiences and bring up issues regarding metadata. They also had their own communication channels specifically for those in metadata roles:

“we use Yammer to communicate with each other about things...that's the resource we use to discuss things to ask each other questions. It's just basically an easy tool for us to use because also you can upload documents and also make notes”
(Participant M – Metadata Librarian – HE Library)

Senior managers in Higher Education libraries also considered how important it was to share good practice so that they could “do better for our library services.” (Participant A) One participant described visiting another institution to learn more about how they process records:

“they've had to work very lean for many years and I know that they have sort parameters in place where that's the point they will intervene with a record and this is sort of thing I would like to see here where we are basically triaging records and if it does the job, let it go and then focus on the things that really need to be edited.”
(Participant L – Senior Manager – HE Library)

The sharing of ideas and learning from colleagues seemed to be paramount to many participants and there was a sense that collaborating came naturally to those in the profession. There was also a notion that co-workers within the consortium and in the wider community provided a vital support network for sharing good practice:

“you've got a network of people so if you need that support, if you need advice or guidance you know who you can turn to who are experiencing something similar and a lot of that comes through the specialist groups, the CPD groups but also the mailing lists where you get that kind of information...we are looking to undertake a reading list review next year, which might mean tendering for a new system and we're looking around to hear about different users and talking to them about what systems they're using, what have been the advantages, what have been the efficiencies and a lot of that just comes about , looking on LIS-LINK seeing what conversations people are having saying I'm using Leganto, I'm using Talis or it might be we work very closely with our suppliers so it might be with ProQuest or with Askews and they're saying one of our other customers has this experiences, one of our other customers might be able to support you in this.” (Participant S – Collections Manager – HE Library)

Participants emphasised how important the benefits are of being able to talk to other professionals within the sector who are experiencing similar situations but will have tried different solutions

4.2.9 Sharing records nationally and internationally

Participants in HE metadata departments emphasised the importance of having records that are fit for purpose because they can be shared globally and re-used and some felt that data should be viewed as an institutional asset:

“one of the biggest issues is you can knock out a basic MARC record, that will get ingested into things like the Jisc Discovery Hub or go to OCLC, it will go all over the shop and it should do the job.” (Participant B – Metadata Librarian – HE Library)

The worldwide use of metadata was reflected on and that there should not be a distinction between what happens in the USA and what happens in this country because the data has no borders and international companies are providing records to everyone regardless of location.

Being able to share records with in Jisc’s National Bibliographic Knowledgebase or in the Community Zone was seen as a key way of supporting the cataloguing community:

“sharing is probably one of the most important things, we create or amend all this material it shouldn't just be for your own place but we should be able to share, it should be for the benefit of the community.” (Participant Q – Metadata Librarian – HE Library)

There are barriers to sharing metadata because of the licensing of records; this is discussed in more detail in later in this chapter.

4.2.10 Working with national organisations

There appeared to be a great deal of activity around engagement at a national level, managers in Higher Education libraries stated that staff within their consortia were involved with Jisc around the National Metadata Agreement and with SUPC around the Joint Consortia Framework Agreement. There was also evidence of collaborations with e-book suppliers and companies who provided LMS software:

“I sit on ProQuest’s UK and Ireland national user group which is a mix of heads of service and senior practitioners that is kind of an engagement and a feedback and a developmental steer of some of ProQuest’s activities moving forward...ExLibris brings together all of directors of service, normally once a year for a day, which is engagement around future develop plans, a little bit about strategic conversation and an opportunity to bring that community together, together with some of the senior ExLibris people to help them make sure they drive services forward in a way that works well for us.” (Participant C – Senior Manager – HE Library)

E-book suppliers also gave the impression that engagement with other key actors was a vital part of their work; they stated that they were involved with Jisc and SUPC; they also highlighted the importance of engaging with the libraries that are their customers and listening to their opinions

“we’re trying, so we’re open, we collaborate and work with Jisc, SUPC, all our of course universities that use our services, we have regular meetings once a month or at least once a quarter where we actually ask what their views are.” (Participant I – Senior Manager – E-book Aggregator)

Higher Education library managers also discussed being part of wider committees such as the Jisc Learning Content Group and contributing to reports on analysing the e-book market. There was a feeling of reciprocity for participants who were sharing their knowledge and experience and that they found being involved with national organisations to be “very, very useful and quite enlightening”. (Participant L)

Some cataloguers from both consortia who participated in the research have been part of CILIP's Metadata & Discovery Group and described how if you are not involved it might seem quite high profile but the reality is quite different:

“when you look at these committees and you think 'oh they must be full of experts and they all meet in London and it's nothing to do with me'. When I got invited onto the committee and I realised that it's just a bunch of people like me who are just working all round the country, some people are more expert than others but generally it's just people doing their job.” (Participant Q – Metadata Librarian – HE Library)

There was an appreciation of having contacts at a national level as well as within local consortia and that having a wide network meant that there were more colleagues to offer support, advice and practical knowledge.

Senior managers in HE libraries championed the work of national purchasing consortia in negotiating better deals for their members, there was a notion that that the issue of metadata standards was beginning to feature more in the agreements that were being met with e-book publishers and aggregators:

“we're a member of SUPC, it's only by working with them at the agreement level that you can only really start to affect change I think because if we sign up to a particular consortia agreement for a particular book supplier and that comes with metadata alongside so if we're buying books from Supplier X and we're getting MARC records for that, that's an integral part of that agreement and if we want to affect the quality of those records that has to be embedded I think in part of that agreement that any of the purchasing consortia should effectively say to the supplier if you can't meet these criteria then we're actually not interested in this agreement because these are certain things that we want to see. Purchasing consortia are really important, above and beyond the pricing and service level agreements; I think the things you can affect through working collectively really helps.” (Participant T – Senior Manager – HE Library)

Participants felt that organisations such as SUPC and Jisc, which support the joint purchasing of e-books, give individual institutions a much stronger voice to negotiate with multi-national companies that provide them with resources.

4.2.11 Conclusion

The motivation for collaborating seemed to be linked to the rationale for being in the information profession; that idea of wanting to help people to find what they need. There are strong networks that include both library staff and e-book suppliers and that the ultimate goal was to improve services for users. Another key reason for collaborating was to be able to get voices heard, whether it is the voice of a particular institution or the voice of a community of cataloguers who want to raise their concerns about the quality of metadata. However, the findings have shown that there are key differences between the two consortia who

participated in terms of the presence of communities of practice for metadata staff and the support provided for these by the organisations.

Relationships between the different actors within the bibliographic metadata ecosystem appeared to strong, but some tensions were present and these are discussed more in the next section.

4.3 Maintaining relationships with suppliers

This section explores the theme of “maintaining relationships with suppliers” that developed from the in-depth interviews with e-book and metadata suppliers and Higher Education library staff. There was a sense from e-book suppliers that they viewed their relationships with libraries as positive and that they welcomed feedback on their metadata. The channels of communication were an area that some participants expressed concern about and that this could potentially be streamlined. There seemed to be some inconsistency with reporting errors back to suppliers with some cataloguing staff feeling it was more efficient to fix records themselves. The issue of licensing of records was also raised in terms of making them more sharable and re-usable so that the same task of enhancing them was not being duplicated.

4.3.1 Having a strong relationship with academic libraries

There was a consensus with participants from e-book and metadata suppliers that relationships with academic libraries were very productive and that staff at academic libraries had a readiness to talk to suppliers about any concerns that they might have:

“our relationship is very strong, we get queries from academic libraries all the time about our data and a willingness to suggest ways to fix it or even give us the answer to fix it in our database.” (Participant D – Senior Manager – E-book supplier)

Metadata was an issue that was being raised by academic libraries and suppliers reported that they are asked to improve the metadata that they are providing and that they do have conversations with customers around what they want in their e-book records. Suppliers welcomed feedback and recognised that although they are private companies who have to make a profit, it is in their interests to listen to the concerns of libraries and make changes to the service that they provide if necessary:

“what we mostly do is just to try to listen to what their needs are, what the pain points are and try to see if us a company, we can solve them or we can help them at least or how we can structure projects that we potentially can have with them in a useful way... an understanding of needs and support and help, showing that yes we are a private company and everything, we need to make money to survive, everybody has to kind of live, but the key thing is that we want to make sure that what we provide is of value to the sector.” (Participant I – Senior Manager – E-book Supplier)

There was a sense that suppliers very much felt that academic libraries “really look at us as partners.” (Participant K) and that being up-to-date on the requirements of libraries was an essential part of the relationship:

“understanding what the customer needs are especially moving first from...AACR2 to RDA and now what's happening with BIBFRAME and Linked Data, who's really moving there and who really isn't and how long will it take. But really making sure my team understands what those issues are so we can at least participate in the conversation.” (Participant H – Senior Manager – E-book Supplier)

Being up to speed with how the sector is working so that suppliers can play a role in it seemed crucial and it was recognised that academic libraries are paying for a service and that this needs to be provided as efficiently as possible. It was highlighted that the needs of libraries are evolving in terms of integration and metadata and being attuned to this was how services and products can be adapted to meet what the market wants.

4.3.2 Being old-fashioned in certain practices

It was recognised by participants from both e-book suppliers and HE library metadata departments that some of the channels for communication and for providing feedback could be updated and streamlined. The process relies heavily on email and this was described as “a little bit still clunky, the whole thing.” (Participant I).²⁴ Cataloguing staff in HE libraries expressed a little frustration at the way in which their requirements for metadata in records was ascertained by suppliers:

“it was still very old fashioned in that it was sort of like a little box 'do you want this, this and this?' or you know 'if you want something put in here in this sort of little template that wasn't even like a MARC record and I thought 'well that's not how I want to go about things, I want to be able to send you our templates and say you're going to need this as a whole, you know not what kind of coding I want in a 949 field.'” (Participant E – Metadata Librarian – HE Library)

One supplier discussed the system they currently have in place for receiving input for libraries and felt that there was room for improvement that this could become more automated and efficient:

²⁴ Also appears in (Edwards, 2022) - see Declaration for full details

“It would be nice to have a little bit more of concise or systematic based workflow for them to make comments and/or recommendations and/or changes...it would nice to have some of those customised records where they can comment a little more. Currently that is very manual, so we'll have basically one of the intervention directors or one of our cataloguers really walk through the actual record and take feedback on it when building the parameter so it's a little manual, so if there was streamlining there it would be nice.” (Participant K – Senior Manager E-book Supplier)

4.3.3 Negotiating with suppliers

Some participants within HE Libraries were in negotiations with suppliers regarding the quality of metadata, at some institutions this was being dealt with by cataloguing staff whilst at other universities the Systems Librarian was feeding back to suppliers about the standard of their records and opening up a dialogue in order to improve standards.

A report by the National Acquisitions Group on the quality of shelf-ready metadata provides a template for a fit-for-purpose e-book MARC record and suggests that this should be the required standard for the Joint Consortia Framework Agreement, some participants felt that this report was helpful for their own negotiations with suppliers:

“this report is available and I'm allowed to share it so I said 'look this is currently out, about to be published, are you considering, could you say you were going meet these standards for example? This would make it a lot simpler for us' and ideally, that's what it's for isn't so all of us can go out as institutions and say 'well look there's a shared standard, can you meet that? And if not then we'll have to pay you less' you know because we can't necessarily go somewhere else and then you start that sort of level of negotiation.” (Participant E – Metadata Librarian – HE Library)

Metadata intermediaries also recognised the needs for metadata to be considered in negotiations with e-book suppliers, because if agreements are to be reached with publishers then every aspect of the supply should be looked at.

4.3.4 Monopolising the space

Senior managers in HE libraries highlighted that prioritising other considerations such as the cost of e-books and negotiating access terms meant that discussions with suppliers about metadata did not happen as often. There was a sense that the market for e-books was not particularly open:

“it's a challenge, I think partly because of the other challenges we have in terms of pricing and licensing it possible sometimes falls under the radar, there's only a limited number of vendors who offer library supply and offer institutional library supply so maybe there's not the same pressure on them as there would be in a more commercial environment where you've got a lot more competition.” (Participant O – Collections Manager – HE Library)

Some participants expressed concern that suppliers take advantage of the market situation and charge excessively for resources, despite the efforts of organisations such as Jisc to negotiate better terms:

“the cost isn't as transparent as it should be, it feels like we're if not quite in a monopoly situation then certainly not an open market situation so they're costing so much more than they should do and not withstanding the work that Jisc and so on have done it feels like we have very little choice about what we do and if we want a

book because it's needed academically then we have to do it, notwithstanding the price.” (Participant R – Senior Manager – HE Library)

There were mixed responses to the issue of pricing, some felt they had little choice and had to buy e-books particularly if they were on reading lists, whereas other participants stated that they refused to pay exorbitant prices and looked for alternatives.

4.3.5 Reporting issues to suppliers

As previously mentioned, some staff at HE Libraries do report issues back to suppliers. Participants stated that it was easy to feedback to suppliers but that not everyone does it. The reasons varied, it was viewed as more efficient to just correct the record rather than getting suppliers to alter it:

“we don’t because I don’t see it as a priority in terms of my team so we just get on with our role and we just carry on and we just deal with it because it’s quicker day to day or in that moment than it is to set up a system of reporting back poor ones.”
(Participant CC – Metadata Librarian – HE Library)

The issue of throughput and the need for swift access to resources was a key reason for not reporting issues to suppliers, that it means users can find the resources quicker if staff within HE metadata departments enhance the records, rather than sending them back to the suppliers to be fixed:

“if I've got a bad record in front of me I can just do it, I can access the e-book, I can do the record and then it's on our system, it's working it's fine. I suppose, long term if you're reporting this back to the supplier you'd hope in the long run then they might start providing better quality, but in the short term, it's already in our catalogue however bad it is, I want to fix it now so that tomorrow someone can access it properly and find it, I suppose it's a sense of I want it done now.” (Participant Q – Metadata Librarian – HE Library)²⁵

Part of the problem for some participants was that suppliers are not necessarily working in the same time zone and that this can add to the delay in getting records altered if there is a fault with them:

“it's easy to report them, I wouldn't say it's that easy to get them fixed, so our main supplier...they're US based, there can be big time lags between reporting things and getting them updated.” (Participant S – Collections Manager – HE Library)

Those who did not report issues with records, reflected on the benefits of feeding back and stated that they knew others who did and this encouraged them to possibly report back errors in the future, if a particular supplier was repeatedly making mistakes in records.

Participants from HE metadata departments spoke about the process of reporting issues and that they rarely get to speak to metadata staff at e-book suppliers but instead have contact with sales teams:²⁶

²⁵ Also appears in (Edwards, 2022) - see Declaration for full details

²⁶ Also appears in (Edwards, 2022) - see Declaration for full details

“metadata was traditionally one of those things that a salesperson was not going to be able to tell you much about, certainly the intricacies of what doesn't work”

(Participant E – Metadata Librarian – HE Library)

The impression was that it could be difficult to explain errors in records to somebody who does not necessarily have the expertise. Participants from metadata suppliers suggested that a single point of contact such as an email helpdesk that is checked by specialists is a solution:

“there's just a helpdesk email they can email direct that's being monitored all of the time, and it will get picked up and dealt with and they'll know exactly what's going on with it, but most of them are things we can fix pretty quickly” (Participant X – Senior Manager – Metadata Supplier)

4.3.6 Resolving licensing issues

There appears to be a move to push towards a more open bibliographic metadata ecosystem with the work of Jisc through Plan M and records within their National Bibliographic Knowledgebase being freely re-usable. The main barrier to this is the restrictive licensing of records by some suppliers and publishers that means they cannot be shared. Representatives from both of the consortia who participated in this research were engaged with Jisc and giving input into how to resolve this issue:

“that is a challenge, licensing when you download a record what you can do with is limited by the suppliers' licence so that national picture is a bit in flux at the moment. Jisc are looking at national agreements with some of the metadata suppliers...I think

that solves lots and lots of issues in terms of that process chain of how a record comes from a supplier to us to make available to users and what we can then do with that and the value-add services you can build on the top of that for users and for library staff are incredible.” (Participant C – Senior Manager – HE Library)

Senior Managers in HE Libraries felt it was important to be part of national discussions around licensing and that working with Jisc, the National Acquisitions Group and SUPC was a key way in which to help influence the future of the bibliographic metadata ecosystem. The current Joint Consortia Framework Agreement managed by SUPC has standards for metadata that suppliers have to show they are capable of meeting, but participants felt there was scope within the next framework agreement to cover more on sharing and re-use:

“that’s a big concern for a lot of librarians, feeding into Plan M and how this kind of supply chain relationship that SUPC has, it’s in a good position to work between suppliers and institutions and look to see where we could make efficiencies...and make sure that we’re getting good records into the metadata ecosystem as quickly as possible and that will benefit everybody.” (Participant AA – Metadata Librarian – Purchasing Consortium)

E-book and metadata suppliers who participated in this research welcomed the moves being put forward through Plan M and some had already made their records freely available, they recognised the benefits of streamlining the improvement of metadata and de-duplicating efforts:

“our metadata is free for anyone who wants to download it, people don't have to be our customers to download from our platform it's free and we share it for free with libraries and aggregators. I think any sharing of metadata is good and it promotes the collaboration that we want to promote.” (Participant EE – Metadata Librarian – E-book Supplier)

Participants appreciated the advantages of collaborating and hoped that it would improve the general quality of the bibliographic metadata in the ecosystem. Another supplier highlighted the close relationships they had with libraries and the work they were undergoing to allow them to share records in a list of agreed knowledge bases in order for metadata that was of a high standard to be re-used.

4.3.7 The relationship of purchasing consortia with suppliers

As purchasing consortia negotiate with suppliers to set out framework agreements for academic libraries, they felt that having standards for metadata within the tenders was a crucial step and that suppliers have responded well to this measure:

“I don't think the requirements are particularly surprising, they're standard records really I think there just hasn't been anything in the past where you laid out exactly what has been required of suppliers. So it's not been concrete and now we have those guidelines written down we can in the contract management phase of the framework agreement we can go back to suppliers and say your records are missing some of these required fields.” (Participant AA – Metadata Librarian – Purchasing Consortium)

Having standards for metadata within a framework agreement means that suppliers have to show that they have the capability of meeting that benchmark. Participants from purchasing consortia also supported those suppliers who were not part of the framework:

“there's the relationship that we have with suppliers during the life of the contract and even suppliers who aren't on our contracts and that's perhaps the more interesting thing and where more gets done in that we can start to work with them so that our requirements are actually realistic.” (Participant BB – Senior Manager – Purchasing Consortium)

The provision of the purchasing consortia for suppliers was to give them advice on the metadata standards and to put them in touch with other organisations such as NAG and BDS who may be able to offer further assistance.

4.3.8 Conclusion

E-books suppliers generally felt that their relationships with academic libraries were strong that they were in partnership with them and that there was as willingness to provide feedback and possible fixes for metadata. However, the process for communicating was described as clunky and old-fashioned and both suppliers and HE library staff felt there was room for improvement as there was too much of a reliance on multiple emails, back and forth. Cataloguing staff felt that they were able to negotiate with suppliers but that they did not always report errors back because it was quicker to fix issues themselves. There are negotiations happening at a national level that some of the participants are involved in to make the metadata ecosystem more open and de-duplicate workflows. Section 4.4 assesses the workflows of suppliers and HE libraries in more detail.

4.4. Assessing workflows

A key theme that has developed from the in-depth interviews conducted with e-book and metadata suppliers and HE library staff is “assessing workflows”. E-book suppliers emphasised that they were not creating the original metadata but received it from a variety of sources. Automation is used to create basic level MARC records, but suppliers stated that cataloguing staff intervene to enhance metadata to a higher standard for libraries. Within HE libraries, the use of shelf-ready records for e-books is prevalent and more automation in this area means that metadata staff are focusing more on other projects such as special collections and open access. There also seems to be a trend of acquisitions staff taking on some cataloguing tasks.

4.4.1 Receiving data in a variety of ways

Participants from e-book suppliers highlighted that they do not create the original metadata themselves but receive it from many sources and in different formats and that it varies in quality. The process was described as “messy, it's not high quality and it's different coming from every publisher and it's just not that easy” (Participant I).²⁷ The files that e-book suppliers receive from publishers, distributors and aggregators are fed into a data management system from which a basic MARC record can be created. There was a sense that one data feed is not enough and that validating it across the different sources was the most effective way of managing it:²⁸

²⁷ Also appears in (Edwards, 2022) - see Declaration for full details

²⁸ Also appears in (Edwards, 2022) - see Declaration for full details

“what we're going to try to do is we're going to find as many fits to it as possible, ideally what we're able to do is get it as early as we can from the publisher ONIX feed, get it from Library of Congress, get some sort of basic MARC record information” (Participant K – Senior Manager – E-book Supplier)

Parameters are set to create a basic machine-generated MARC record but because of the variations between publishers, suppliers deal with the feeds ingested from each publisher in a different way in order to map it to the correct MARC fields:

“ONIX has its own standards to adhere to and the improvements in that standard have helped but generally speaking we have a separate import programme for every publisher that sends us ONIX data because they all do things slightly differently.”
(Participant Y – Metadata Librarian – Metadata Supplier)

Once a simple MARC record has been produced, this can be shared with libraries if necessary. However, further enhancements are provided by cataloguing staff to create gold-standard records.

4.4.2 Enhancing records by hand

A higher quality of MARC records with customisations does require intervention by hand by cataloguing staff so work is carried out to input additional elements such as subject headings and authorities:²⁹

²⁹ Also appears in (Edwards, 2022) - see Declaration for full details

“a basic record is then presented to my team and then they go in and they enhance those records with additional subject data using Library of Congress Subjects or they will check the author name to see if there is an authorised version of that name with birth dates and if necessary death dates as well, they will add as much metadata as they can to a given field, maybe to indicate that something is actually part of a series and it didn't say that in the metadata itself” (Participant H – Senior Manager – E-book Supplier).

Before completed records are sent to libraries, they undergo further checks by both by computer processes, which will flag up any issues with punctuation or fields have crucial elements missing, but it is recognised that human input is still required to perform some quality assurance:

“we'll do human related checks as well to make sure that we haven't missed a field or if there is more than one author in the statement of responsibility, we check that we've got the requisite number of name headings on the record and that kind of thing.” (Participant Y – Metadata Librarian – Metadata Supplier)

Creating a higher quality record is a process that can take time and the instantaneous of e-books means that libraries want the record sooner, so often a basic record is sent initially so that resources are discoverable to users more swiftly.³⁰

4.4.3 Wanting records at same time as e-books

The expectation that the record will be available at the same time as the e-book means that there has to be some compromise that a brief record can suffice for a short period until the

³⁰ Also appears in (Edwards, 2022) - see Declaration for full details

enhanced version is available. Participants felt that the attitudes towards this from libraries had changed:

“five years ago it was 99% of the time, ‘give me the best quality possible record’, now I would say it’s much more split where it’s like ‘ok, give me good enough, faster because we can put a better record in later but I need good enough and fast, now.’ I think it’s starting to split, there’s still the folks that say ‘no, I need the best possible record, it doesn’t matter, you’ve got to get it to me fast but it has to be really good.’ But it’s definitely much more of a struggle in the space now, I feel like it’s almost more 50/50 where you have libraries say ‘I need that record the second that book becomes available, regardless of quality’ versus ‘No, don’t send me that record until you can tell me it is this gold standard.’” (Participant K – Senior Manager - E-book Supplier)

There was a sense that a brief record is better than none at all if it can be overlaid by an enhanced record as soon as this option is available and with the shift towards more digital collections where e-books are available straight away, as opposed to print copies that take longer to arrive, this is becoming the preferred choice by many institutions.

4.4.4 Having shelf-ready records

Several of the institutions involved in this study are using shelf-ready records and feel that a more automated approach enables metadata staff to work on other projects such as special collections³¹ or other portions of their jobs such as open access or scholarly communication,

³¹ Also appears in (Edwards, 2022) - see Declaration for full details

as discussed in Section 4.1.4, metadata departments have shrunk, but in addition to this many cataloguing staff are also carrying out other roles:

“with increasing automation and things like shelf-ready what that should be enabling us to do is to do more work around the value of special collections and unique material where you do probably have to do a bit of work because you're maybe the only library in the UK that has that item.” (Participant C – Senior Manager – HE Library)

This indicates the relationship between the roles of metadata staff and the changes to library collections as stipulated by Dempsey et al., (2014), this is explored in Chapter Six.

Participants spoke about the importance of throughput and efficiency as part of the rationale for having shelf-ready records. It was also recognised that the quality of shelf-ready records was improving and that some libraries that have shelf-ready records are happy that they are ‘good enough’. The work of Jisc around the National Bibliographic Knowledgebase is to create a more open metadata ecosystem to make records more freely available and re-sharable. However, for some libraries, sharing their bibliographic metadata with the NBK is just not in their workflows:

“they take on an awful lot of shelf ready records and are fairly content to use them as is and their view on this was that the shelf ready records that are coming through the supply chain are getting better.” (Participant J – Senior Manager – Metadata Intermediary)

The reasons behind these improvements were thought to be the feedback from libraries about any errors and negotiations through procurement tenders such as the suggested standards put forward by NAG and SUPC.

4.4.5 Using the Community Zone

Many academic libraries that use the ExLibris LMS Alma get their records through the Community Zone rather than dealing directly with suppliers. These records are put in the Community Zone by ExLibris and are available to any Alma customer. When an e-book or an e-book package is ordered, metadata staff assess the records in the Community Zone:

“I look at the data sets that we have purchased or that we subscribed to for the e-book packages in the Community Zone, we don't locally manage records so we don't receive those direct from the publishers or the content aggregators and manage them on a one-to-one relationship” (Participant B – Metadata Librarian – HE Library)

Cataloguing staff stated that they do not always edit Community Zone records without first copying them to their institutional catalogue because changing records within the Community Zone alters them for everyone and any edits that are made can impact other customers or be undone by other edits. This was their rationale for not making major changes to records:

“if you make any alterations, that changes the record for everyone globally, so I wouldn't want to do that unless it was something simple like a typo” (Participant G – Metadata Librarian)

The Community Zone was seen as a way of getting records quicker and cheaper but the quality of them can cause issues at times:

“the quality of these particular records vary greatly. Some of them are pretty good and then some of them are just basically a brief title and an ISBN and that's it.”

(Participant M – Metadata Librarian – HE Library)

For some participants, if records could not be found in the Community Zone or if the quality of the metadata was poor then they would look at alternative sources such as OCLC or the NBK.

4.4.6 Briefing acquisitions staff to look for issues in records

A number of participants stated that acquisitions staff were being briefed on how to check for issues in MARC records and then feeding back to metadata staff if necessary. Some metadata staff discussed how they only look at new records that are brought to their attention by acquisitions staff because of an issue or if errors are flagged up later once the record is on the system:

“the only oversight anyone would have is the acquisitions librarian who's looking at the record so it's what we brief them on if they notice anything then they know to come and ask us or if they're not happy they let us know...so it's a curious mixture of not doing anything at all because we've done a few tentative sort of template checks via our colleagues or we're actually looking at them each individually much later down the line” (Participant E - Metadata Librarian - HE Library)

Senior Managers at the HE Libraries where this practice is happening recognised that it was a shift in how tasks have traditionally been carried out and that this may be a concern for metadata staff who may feel that their job is changing:

“a lot of records were being, instead of them always going to the hands of a cataloguer, they were being handled by acquisitions staff, things they would look out for in a record and overlaying with OCLC and I think part of this overlaying is that OCLC records are deemed to be the gold standard though I know this does ruffle feathers with our Metadata Librarian who sometimes feels the records should be coming to them so it's a bit of a knot to try and tease through” (Participant L - Senior Manager - HE Library)

At the institutions where acquisitions staff were playing a part in the quality management of e-book metadata, there was good communication between the teams involved with acquisitions colleagues asking the cataloguing department for support if they were unsure about an issue with a record or were unable to find a good quality record in the Community Zone or elsewhere such as at OCLC.

4.4.7 Identifying licensing as an issue/Recognising the issues with licensing

Participants in cataloguing departments felt that being able to edit and then share records was beneficial and would improve workflows as well as de-duplicating tasks. There was concern that many large collections of e-books do not have records in the Community Zone or the NBK because of restrictive licensing.³²

³² Also appears in (Edwards, 2022) - see Declaration for full details

“we discovered that a lot the publishers had signed to get the records under licence and discovered actually I can't send those to the community zone because ExLibris will only accept records that can be freely re-used so any ExLibris customer could go into a community zone record, they can copy it, they can download it, they can do whatever they want with it basically. And of course the publishers realised yes we need to get the collections into these knowledge bases and it doesn't really matter if it's ExLibris or it's OCLC or it's EBSCO, doesn't matter the impact is the same if the restrictive licensing is in place.” (Participant B – Metadata Librarian – HE Library)

Both HE library staff and suppliers recognised that licensing is quite a contentious issue and that the creation of metadata has a cost and this investment needs to be protected as the record moves through the supply chain:

“so you're talking about the idea of having one amazing record that gets shared with everybody, it's great but it's just actually achieving that so that the money flows through to provide the resource needed.” (Participant F – Senior Manager – E-book Supplier)

Participants from suppliers and metadata intermediaries stated that it quite a complex area in terms of the ownership of bibliographic records and that libraries were not always aware of the costs involved in creating records:

“we have to make a profit to exist, if we don't then we can't supply records to anybody but equally I think, how do I diplomatically say that I don't really believe that most libraries know the full cost of what they pay for the metadata, I think they have an idea. I've definitely been in meetings with libraries where they've said the metadata doesn't cost us anything because we have cataloguers but you're paying

those cataloguers, they're not sat there doing nothing so I think there's a bit of education that we're politely doing" (Participant X – Senior Manager – Metadata Supplier)

Suppliers who participated in this research also reiterated that it was not just the cost of staff to creating the metadata but the resources subscribed to assist cataloguers in creating the records that also had a price that needed to be considered. It was recognised however, that with the existing approach, there was duplication of effort:

"one cataloguer, one institution making changes or improving one record, or ten or twenty, or thirty that's fine but we need that sort of critical mass if you like..the economies of scale will be more visible in terms of improving that end-user experience if and when this is addressed at a global, national, regional level and the economies of scale will be greater the more participation there is in this idea of from a UK perspective, a national data hub." (Participant W – Senior Manager – Metadata Supplier)

A number of participants felt that although it was difficult to quantify, there was a lot of time and money being wasted by libraries enhancing or correcting records and then not being able to share them for re-use. The difficulties surrounding licencing and the de-duplication of workflows is highlighted by Jisc (2019), possible solutions to this are discussed in Section 6.4.

4.4.8 Thinking NBK is the better option

Both of the consortia who participated in this research had considered the option of having all of the member libraries' catalogues searchable by anyone across the consortium but after exploring this, decisions were made that a better option was to share data with Jisc's NBK:

“towards the end of that period of looking at the union catalogue it was the time when Jisc were talking about developing the NBK and we were engaged with them very quickly when we heard about that initiative seeing that lots of the benefits of the union catalogue could actually be derived from being early adopters of the NBK and having our holdings within that.” (Participant P – Senior Manager – HE Library)

Senior managers within both consortia expressed an interest in not replicating the work of Jisc and instead encouraging their members to share their catalogue and holdings data with the NBK where possible. As well as the benefits of not duplicating the structure of the NBK at regional levels, they also considered using the NBK to be more viable financially as it needed less expenditure from the consortia.

4.4.9 Working from home more after pandemic

Library staff and suppliers who participated in the research commented on a shift to hybrid working that has occurred as a result of the Covid-19 pandemic. There was still a need for metadata staff to be in the office to catalogue print material but the increase in digital material meant that there was some scope for working from home:

“I work three days at home and two days at the office and really that has made me more productive in the end because it's more quiet so it's better for focusing, but obviously we will see more online content needed in the future” (Participant EE – Metadata Librarian – E-book Supplier)

“I still work from home, so that shows the scale of my job as well, before I did much more stuff with printed stock because I was based in the library and we bought more printed stock, now as you see if two years later I work from home all of the time, so all of the data is manipulated electronically”. (Participant V – Metadata Librarian – HE Library)

Senior managers also stated that their organisations were now more flexible about hybrid working and that some metadata jobs were being advertised as hybrid or remote in order to be able to recruit for some posts. The difficulties in filling some metadata roles for both suppliers and libraries is discussed further in Section 4.7.4.

4.4.10 Conclusion

E-book suppliers discussed the aspects of their work that are automated but also highlighted that some elements required work to be undertaken by hand in order to produce a better standard of record. Many HE libraries are using shelf-ready records either directly from suppliers or through Alma’s Community Zone. The quality of records is improving, but there are still some concerns about this, which are explored in more detail in the next section.

4.5 Striving for quality

The following section examines a significant theme that developed from the in-depth interviews with HE library staff and e-book and metadata suppliers around ‘striving for quality’. Participants from academic libraries stated that they were dealing with quality issues and having to enhance records. Those who are using Alma’s Community Zone also stressed that the quality available through this service is variable but had improved recently. E-book suppliers highlighted problems with the data that they receive from various providers and

that they often have to go back to publishers to get the correct information. Recent progress within the sector in terms of the quality of records has seen the introduction of a recommended template with essential and desirable elements into the tender document for the Joint Consortia Framework Agreement so that suppliers have to work towards providing records that are of a particular standard.

4.5.1 Having quality issues in records

Cataloguing staff in HE libraries reported that the quality of the records coming through to them was variable and there are concerns that this can impact on discoverability if not rectified. There also appeared to be a range of different errors that appeared in the metadata:

“unfortunately a lot of the records that come through are poor in terms just simple things like not having the author in the right field and having the wrong publication date or whatever or not enough subject headings.” (Participant G – Metadata Librarian – HE Library)

It did seem to make a difference which supplier the records were coming from with some suppliers having a better reputation than others. Some needed intervention by cataloguers but other records were a ‘good enough’ standard that they could be used without any enrichment:

“we certainly have a lot of conversations around quality and they've centred on what's usually described as the variable quality of e-book data and for some that means it's generally poor quality and for others that means it genuinely patchy in

terms of there are some providers who...the data arrives and it's fine you can just use it as is.” (Participant J - Senior Manager - Metadata Intermediary)

It was recognised by some senior managers in HE libraries that large e-book collections were problematic if the quality of the MARC records for them was not fit for purpose and that metadata departments had to spend a lot of time correcting them:

“there is a job to enhance those catalogue records because quite often they're very basic so they're not really fit for purpose in terms of good discovery. So obviously when you buy a package and you've got hundreds of titles or thousands of titles in there, that's a big job for cataloguers to work their way through all of the titles that are in that package and load them onto the system really.” (Participant N – Senior Manager - HE Library)

This reiterates the issues surrounding what is 'good enough' and raises questions about whether shelf-ready can be loaded into LMS with the minimum amount of checks; it seemed to be dependent on each supplier as some provide better quality records than others.

4.5.2 Enhancing metadata that is not 'good enough'

Senior managers in HE libraries highlighted that cataloguing staff were having to intervene because sometimes records were not available or the quality was so poor that it would have an impact on discoverability:

“one of our cataloguers spends an awful lot of time either correcting or enriching, that's for books and e-books, because whatever comes shelf-ready is either not available because the books are so weird particularly the humanities or just inadequate in terms of they just wouldn't be discoverable” (Participant A – Senior Manager – HE Library)

Participants talked specifically about certain suppliers that they had problems with in terms of metadata. It was also noted by metadata staff that some suppliers are enhancing the records that they provide and this meant that libraries did not need to spend as much time enriching them:

“when we were first getting MARC records off them they were very, very poor they just had the 245 field, the title and an ISBN and maybe an edition field but that was about it. But I think as the months have gone by...the records are improving so they must have had a lot of feedback from all of their customers, so they've upped their game considerably and whereas before when we were importing the records, they were being sent to me and I was sort of having to pretty much catalogue them just using the e-book as my source, but now we don't need to do that so much now.”
(Participant M – Metadata Librarian – HE Library)

It was also mentioned that another supplier was not providing MARC records at all, but just sending through spreadsheets containing book titles and ISBNs for packages containing thousands of e-books. Metadata staff commented that finances were misdirected on e-books if the metadata was not in place to make the items discoverable, “when it's done poorly to scale then you're wasting money by buying any resources” (Participant E). Cataloguers also reported that the process of enhancing records was time consuming and diverted them away from other tasks:

“so the cost is that you can't do something else instead it's obviously not an upfront cost but there's a knock-on effect on other things that you do.” (Participant G – Metadata Librarian – HE Library)

When asked to elaborate on the other tasks that correcting records distracted from, many cataloguers mentioned special collections or other parts of their job such as open access and scholarly communication.

There was a view that shelf-ready records are improving and that suppliers are becoming more aware of the standard that HE libraries are requesting and that although the quality is variable depending on the supplier, the overall standard is getting better:

“I think it's gradually improving and that more and more suppliers are realising this is what is required this is what people in this community are demanding, some are slower to catch up than others.” (Participant Q – Metadata Library – HE Library)

Some collections managers stated that they had worked closely with some suppliers to make it clearer what their requirements are and to help them meet these standards.

4.5.3 Costing staff time to correct and find records

It was difficult for participants in HE libraries to quantify the cost of correcting or enhancing records, but there was consensus that the cost of staff time was an issue that had to be carefully considered. As stated in Section 4.2.8, measures of triaging records to a minimum standard through automation in the LMS was a way of mitigating this:

“it's staff time, that's the biggest thing but you've got to balance it up against what if you've got resources that no-one can find and they're just sitting there and no-one's using them so that's a loss value in itself. We use Alma, and we use it so that anything isn't up to our standards is triggered immediately and we can amend it immediately so we're not having to trawl through every single thing.” (Participant S – Collections Manager – HE Library)

Being able to set parameters in an LMS to flag up any errors in records to a particular standard solves problems if there are only a few minor errors in a handful of records. However, the issue of large sets of records for e-book packages that are consistently of poor quality means that staff are taken away from other tasks in order to correct them:

“the most damaging cost is time, so for instance with the....records, the worst thing about them would be that there was a period of weeks and months where we actually had complaints from users that some things were unfindable...it's the real downfall of them and it's staff time effectively because I've had to divert staff to do that and when they're doing that, they weren't doing other work.” (Participant Z – Collections Manager – HE Library)

As highlighted in Section 4.5.2 if metadata is done poorly at scale then money is being wasted on resources because they cannot be discovered and accessed by end-users, but there is also the cost of staff time that is being misspent on an unnecessary work when metadata teams are small and resources are finite.

4.5.4 Assessing quality in the Community Zone

Several of the institutions involved in this research used Alma's Community Zone and part of the role of cataloguing staff was to assess the quality of the records available through this service and it appeared that some of the records are quite poor, "we take it unless it's truly awful and sometimes it is truly awful" (Participant E).³³ Metadata staff also stated that they had conversations with ExLibris about the quality of the records to see if it could be improved:

"I've spent an awful lot of time over the last five years again, they're sick of me actually, going on about metadata with them and saying 'look we've bought this but the record in Community Zone is abysmal so how about we do something about that' and to be fair, it's not just me obviously there are other customers all over the UK have had exactly the same conversations with them and just said well we need that metadata it's going to help us manage the resource" (Participant B – Metadata Librarian – HE Library)

Some participants felt that records in the Community Zone had got better over the last year but that there were still issues that needed resolving and that it was not always obvious which records needed correcting and that investigating this was time consuming:

³³ Also appears in (Edwards, 2022) - see Declaration for full details

“there is the issue of staff time in terms of the correction but I think also it's also discovering the records that might be affected to begin with because with the packages that we have in the Community Zone, there's so many records that are included and the quality seems to be so variable that actually discovering which records might be impacted is probably the biggest issue for us in terms of the staff time that would be involved.” (Participant O – Collections Manager – HE Library)

There was concern that ExLibris were stripping out metadata from records that had been supplied by publishers or e-book suppliers and that this needed rectifying by lobbying ExLibris.

4.5.5 Having difficulty defining what a perfect record is

As discussed in 4.4.5, metadata staff in HE libraries voiced reticence about editing records in the Community Zone as this changes the metadata at a global level and affects all Alma customers. E-book suppliers also felt that it was difficult to suit everyone's needs:

“in the Community Zone one person's perfect record might be another person's disaster record. And the difficulty of finding what perfection is I think makes it very challenging to ever say you have the perfect record.” (Participant H – Senior Manager – E-book Supplier)

As there are different requirements depending on the institution “trying to define one level of quality through the entire sector is impossible” (Participant J). Considering a fit for purpose record rather than a perfect record is an idea that was mentioned by participants and that there can be essential elements and then desirable components:

“one thing that clearly makes sense is to try understand exactly what good or great quality looks like, which fields are a must, which fields are nice, how is the formatting?” (Participant I – Senior Manager – E-book Supplier)

The work of the National Acquisitions Group and SUPC to create a standard template MARC record that can be given to suppliers to inform them of the metadata quality that is needed, is making some progress towards an ecosystem where there are more fit for purpose records.

4.5.6 Recognising the need for accuracy and consistency

Participants from both suppliers and HE Libraries emphasised the importance of accuracy and consistency in records. It was felt this was the key to a quality record, that the data had to be correct and that it is formatted in the right way:

“I think just at a high level is that we have the data structure right, we have the data validated. And that's it, those two pieces right there that's it, then we're going to get into really granular customisations from that point, because for some libraries that's probably good enough and that's all they need, where others are going to be way more detailed so if we can get the structure and formatting right and we can validate the data that it is correct I think that right there is the baseline for a quality record.”

(Participant K – Senior Manager – E-book Supplier)

Suppliers felt that it was key to have the basic information in place before adding any customisations that specific libraries might require, that the initial product needed to fit-for-purpose.

Collections Mangers and metadata staff in HE Libraries reiterated the need for consistency and accuracy stating that this was vital for discoverability, that punctuation was correct and followed the MARC rules and that subject headings and authorities were suitable:

“in our institution and our collection it comes down to can people find things so that's where the value is, there isn't really anything more than that, it's how easy and how discoverable, making sure that your subject headings are appropriate, that it's consistent, that it's accurate.” (Participant S – Collections Manager – HE Library)

HE Metadata staff in particular felt that this consistency and accuracy was not always present in the records they were receiving, whether this was directly from a supplier or through the Community Zone.

4.5.7 Receiving incorrect data from providers

E-book suppliers reiterated that they are not creating the original metadata and at times they are relying on publishers and other providers to supply them with the correct information and that errors do occur. There are mechanisms in place to deal with these issues, such as ticketing systems or liaising with publishers to find a resolution:

“things slip through, things are incorrect, we get something incorrect from a provider and so we have a ticketing system as I'm sure most vendors do and we have dedicated people on our staff managing those tickets. I would say we've got an excellent track record for getting done those things we can on our own, sometimes it's a question of going back to the publisher and trying to get new, let's say cover image or a new PDF file because there's something broken about it. In that case we're only as good as the publisher who provides us the data, but we have people who are really seriously dedicated to getting things right for the customer if they somehow go awry.” (Participant H – Senior Manager – E-book Supplier)

There was a sense that e-book suppliers were focused on providing quality records with accurate and consistent metadata but that there needed to be more cooperation across the bibliographic metadata ecosystem for this to be achieved.

4.5.8 Using LCSH

LCSH were described as a vital element of a quality record. E-book suppliers who participated in this research stated that they load them from the Library of Congress and that some records they get from providers such as BDS and The British Library already have subject headings in them. Where cataloguing staff at suppliers are enhancing records, they ensure that they have a certain number of subject headings:

For the academic space, they're critical, BISAC is a commercial subject classification it just does not fit the academic space, it's better than nothing but it's not high enough quality or the language is not specified enough for it to be very useful for an academic librarian. So getting those LCSHs, getting those LOC call numbers, those are critical pieces that we have to have in our records. (Participant K - Senior Manager – E-Book Supplier)

Metadata staff in HE libraries also described LCSH as a key part of a quality record and that “it’s making sure there’s a consistency to the way that these things are indexed so that they can be found” (Participant CC – Metadata Librarian – HE Library).

4.5.9 Creating RDA templates to standardise records

One of the HE library consortia participating in this research, had created RDA cataloguing templates for a range of resources including e-books and loaded these into Alma, with an aim of “setting some common minimum standards for bibliographic records” (Participant C). This shared practice was appreciated by cataloguing staff within the consortium who felt the guidance helped them in their everyday work:

“if we're looking at electronic stuff, yes we are doing our best to meet those, especially when you're doing things like changing what has been a print record, if you're duplicating it and turning it into an electronic, you know things like that then we have a much clearer path we're doing that as a consortium in terms of practice”
(Participant E – Metadata Librarian – HE Library)

Cataloguers within this consortium were also aware that each institution might have had their own exceptions to the standards in the past but that having a shared cataloguing practice is a positive step:

“some people may have been cataloguing to different standards, historically we've all got all kinds of...you look back at old records and say 'oh my god they're so awful, what was going on 20 years ago?' So we've all got a mixture in our catalogues but having something we can all aim to follow together is quite a nice communal project to have” (Participant Q – Metadata Librarian – HE Library)

This consortium has also been working closely with the National Acquisitions Group and SUPC in their work to bring a template record for e-books into the procurement process for the Joint Consortia Framework Agreement so that suppliers who are part of the agreement have to be able to show that they can meet certain standards.

4.5.10 Being aware of the NAG and SUPC standards

The recommended e-book template MARC record from the NAG report into shelf-ready metadata has been adopted by SUPC as part of their tender for the Joint Consortia Framework Agreement. E-book suppliers that are part of that agreement are now required to be able to provide records that meet a certain standard, with some elements required as essential and some fields marked as desirable. It is seen as progress by many in the sector:

“I think they've done great work and I hear it often referenced by libraries who appreciate the report suggesting standards for e-book records and how that might work its way into the detail of the national procurement exercise and so yes, I think that's very significant what they've done there and how that can help with...raising the detail, the comprehensiveness and the fitness for purpose of records.”

(Participant J – Senior Manager – Metadata Intermediary)

E-book suppliers understand the expectations and are working closely with NAG and SUPC to be able to meet the new requirements. Cataloguers in HE libraries welcome this development and stated that the template is a useful tool to have:

“we can all look at it and say ‘yeah ok, when we're negotiating with a publisher or with a metadata supplier we can put that in front of them and say this is what we need’, which is great you haven't got to think about it, you just put that in front of them.” (Participant B – Metadata Librarian – HE Library)

As highlighted in Section 4.2.10, working collectively gives libraries and purchasing consortia a stronger voice and puts them in a better position to negotiate with the companies that are supplying metadata.

4.5.11 Conclusion

There are quality issues with records that are being provided by suppliers, but participants reported that it depended on the supplier. Many institutions that participated in this research use Alma's Community Zone as their main source of records but the quality of metadata within it is variable. Cataloguing staff expressed frustration about this and stated that they had provided feedback to ExLibris.

E-book suppliers felt quality management was an issue for the entire bibliographic metadata ecosystem and described how they liaise with publishers and other providers who send them metadata that is sometimes incorrect.

Progress is being made on setting standards for suppliers through the work of NAG and SUPC who have produced a template record that is now part of the tender document for the Joint Consortia Framework Agreement. They are working closely with suppliers to ensure that those who are part of the framework are meeting these standards.

4.6 Changing perceptions of library collections

This section discusses a key theme of 'changing perceptions of library collections' that developed from the in-depth interviews with HE library staff and e-book and metadata suppliers. The role of the library and how it is used by students has altered because of growing digital collections, although participants felt that print resources were still needed to a certain extent. The Covid-19 pandemic that led to the closure of libraries during national lockdowns has meant that the shift to digital content has been accelerated. E-books are not without their issues in terms of price and availability and this is a key reason why print books are still required. With many libraries having access to a similar digital collection in terms of e-book packages and journal subscriptions, there is more of a focus on promoting special collections and material that is unique.

4.6.1 Perceiving libraries as buildings with books

Traditionally, academic libraries have been viewed as buildings with books where users come to access resources, but participants highlighted that digital collections are now outweighing print collections in terms of both size and budget:

“historically there's been that kind of impression of a library as a place where you stored books and collections and that kind of hub of that's where people came to access those physical items. That's flipped completely. I think we're much more about digital services and spaces and libraries are seen as places for people to come together to work and engage.” (Participant C – Senior Manager – HE Library)

The idea of a library as a space for users to come and work or collaborate was reflected on by senior managers in HE libraries who reported that the libraries were well used for this purpose, but that fewer users were browsing the shelves or trying to find resources in the physical collection and that the use of print books was decreasing:

“we were seeing pre-pandemic that although students want to study in the library and they see that as a space where they can get serious work done, the actual use of the physical collections has been declining over quite a long period of time and you don't tend to see, even in humanities, you don't tend to see lots of students browsing in the shelves really. So we see a lot of students sitting in the library with laptops, working on things and there's a lot of use of the library as just purely a space where student can work and obviously very big access of the electronic resources but the print collection is and has been declining and I anticipate that that trend will be exacerbated by what we needed to do during Covid as well.” (Participant N – Senior Manager – HE Library)

It was also recognised that the Covid-19 pandemic had impacted on the use of print books, not just when libraries were closed during lockdown but when they re-opened and provided click and collect services, users were opting to use digital first and only ordering print copies if e-books were not available:

“over the last year we obviously have had click and collect like most university libraries and what we did was map what people were borrowing in print and for the most part, none of it was available electronically so what students were obviously doing was looking for the electronic first which is what we advised them to do so they were actually listening to us.” (Participant A – Senior Manager – HE Library)³⁴

Participants also stated that users were engaging more with digital in all areas of the curriculum and not just in small pockets as had been the case in the past.

4.6.2 Having some demand for print

Cataloguing staff in HE libraries reported that once they re-opened and were no longer in lockdown that there was some demand for click and collect as well as book postal services. There was a sense amongst e-book suppliers that there would be some demand for print from academic libraries but that the pandemic had shifted the mind-set of libraries and there users more towards e-books:

“if you say ‘oh, will they move 100% digital?’ No, I mean there will still be quite a substantial bit of the content that will be or will go back to print, but the overall attitude and the frame of mind, it did kind of change. So, before Covid, it maybe was like first you think about print, or anyway students, they would study first on paper, now it's kind of the opposite. So, it's like ok first let's think about digital and then if it's too expensive, if it's not available, if it doesn't really make much sense, ok we'll go print so let's go with the print and use it. So I would say the way that I'm seeing it is sort of this way, so kind of accelerated and kind of shifted the paradigm, so instead of

³⁴ Also appears in (Edwards, 2022) - see Declaration for full details

mostly print, now it's mostly digital but the print will be there, my view is that it will stay.” (Participant I – Senior Manager – E-book Supplier)

As well as the demand for print books in certain subject areas there are also particular factors that mean print still needs to be an option, mainly the availability of e-books and their cost.

4.6.3 Considering how end-users are accessing resources

With libraries transitioning to more facilitated collections; providing access to resources that they do not necessarily own, several participants from HE libraries considered the ways in which end-users are accessing the library catalogue and whether or not they are aware that the catalogue exists:

“the suspicion I do have is that students aren't using the library catalogue as much as librarians and academics think they are...we suspect people are just googling and coming in from a different route.” (Participant L – Senior Manager – HE Library)

This has implications on how much detail is required within the catalogue if end-users are not browsing it or finding e-books serendipitously in the same way as they would if browsing physical bookshelves. Participants also recognised that the digital shift meant that different means, such as integrated reading list software are being utilised to access e-books:

“records need to be just about good enough to end up on a reading list pretty much, because I don't think there's an enormous amount of browsing of the catalogue.”
(Participant DD – Metadata Librarian – HE Library)

“our primary way of students finding them is linked through the online reading list and that was a massive project when we started that about six years ago but now the idea that the key textbooks that students want, they're not having to search the internet, they're not having to come into the library, they just click a link from their reading list and it will take them straight to the e-book, has taken us forwards leaps and bounds.” (Participant R – Senior Manager – HE Library)

The sense that records still need to be ‘good enough’, reflects the work that is required to make e-books discoverable in order for the staff who are adding them to reading lists to be able to find them.

4.6.4 Being tied to reading lists

Many participants mentioned the prevalence of reading lists and how they influenced both their work and library collections. There was a sense correcting the records for the material on reading lists and resources that were heavily used was taking priority:

“we focus a lot now on usage data so we try and prioritise things which are being used or are going to be used because they're on reading lists or that particular subject area is well used or that title or item is well used. So that's a way in which we can try and address the difficulty that we have in terms of capacity to try and direct our resource where it's maybe at its most valuable.” (Participant O – Collections Manager – HE Library)

Senior managers in HE libraries stated that reading lists are determining what is part of a collection a lot more because fewer students are reading around the subject therefore; there is less usage of resources that are not on reading lists and that this raised questions of

whether this material was still required to be part of library collections:

“we're also seeing that the collection is being more narrowly defined in terms of what's on a reading list particularly from undergraduate and taught postgraduate level, their readings can be quite prescriptive in some areas...Students are pressed for time so I think we're seeing something really interesting in terms of the library generating content, but also perhaps a narrowing of the content that is really earning its keep on our shelves.” (Participant T – Senior Manager – HE Library)

Participants also discussed the variety of resources in reading lists and that the more “weird and quirky things on there” (Interviewee E), often have to be purchased as individual e-books as they are not part of the packages sold on a particular subject.

4.6.5 Considering the challenge of the cost of e-books

Both metadata staff and senior managers in academic libraries emphasised the challenge of the cost of e-books and that some resources were outside of the budget that had been set for e-books and were therefore prohibitively expensive:

“almost every meeting that we sit in or I've sat in with libraries in the last period the two main things that they want to talk about are not perhaps metadata issues which I'm closely involved with, but more to do with e-textbook pricing...The whole piece around the cost of e-books and the cost of e-textbooks is a hugely important issue.”
(Participant J – Senior Manager – Metadata Intermediary)

Senior managers recognised that the increasing cost of packages was significantly higher than the increase to library budgets and this inevitably led to being able to afford fewer resources:

“library budgets aren't growing as fast as the cost of resources, many of our packages are going up about 5% a year when our library budget definitely isn't.”

(Participant R – Senior Manager – HE Library)

The pandemic had exacerbated the problem because libraries had no choice but to purchase e-books in order to make resources available to users during national lockdowns. Some suppliers put the price of e-books up during this time and participants reported that they had spent more money than they anticipated.

Some managers expressed the need for a tougher approach and that refusing to purchase expensive e-books may be a more effective way of getting publishers to change their approach to pricing:

“my view of that is if they cost that much, don't buy them, vote with your feet, put the publishers out of business, if they want to charge a 500% increase on an e-book don't buy it, we've got to be fairly hard-nosed about that.” (Participant T – Senior Manager – HE Library)

The situation has led to a national campaign to raise the awareness of the government about the price of e-books and to try to engage them in discussions with publishers. Awareness of the cost of e-books and e-textbooks is being raised by the #ebooksos campaign that has been lobbying government departments and is supported by SCONUL, Jisc and RLUK, participants felt that this was a step in the right direction but that more needed to be done:

“I think the #ebooksos has been very good at raising the profile of the issue. I mean, my own personal view is I think the Competition and Mergers Authority really does need to look at the market and they certainly catapulted it into that domain but at the

moment I think the real problem is nobody is coming with any solutions.” (Participant L – Senior Manager – HE Library)

Participants hoped that the putting pressure on publishers and getting parliament involved could enable changes to pricing and licensing that would support a more seamless delivery of e-content in academic libraries.

4.6.6 Shrinking library budgets

Shrinking library budgets remain a challenge and it was felt that highlighting the issue of high e-book prices to decision makers at institutions, particularly when the parameters had changed for access to resources for users during the pandemic, could be beneficial:

“we’ve done some work internally to make senior managers aware of the cost of digital content, there was as feeling I think of 'oh it's free it's on the internet', so the budgets are always a bit of a challenge” (Participant A – Senior Manager – HE Library).

Many participants talked about the lack of money in libraries and that although the demand for e-books was higher, the purchasing power needed for this was not always in place. Budgets that were remaining steady were still seeing a decrease in terms of inflation:

“we've all been under pressure with budgets for a number of years and the pressure always then is doing more with less and what that tends to mean is where can you find efficiencies in your process, which is around automation, which is trying to take away unnecessary staff effort on a process so you can put that effort somewhere else and universities as a whole are a bit of a mixed picture financially but for a

number of years I don't think anyone's been in a particularly cash rich environment which has meant essentially we're trimming and tailoring every single year to try and get the best value from the budgets we've got and that inevitably means some things come under pressure.” (Participant C – Senior Manager – HE Library)

This can have an impact on resource budgets but senior managers in HE libraries specified that it affected recruitment and staffing, and that business cases put forward for posts that had become vacant were not being signed off:

“we had a cataloguer and when she retired she wasn't replaced and in terms of when budgets are tight one of the things to go is cataloguing. I think because it's so much behind the scenes, people don't see the importance of it, so teaching and learning support and books on the shelves those are the things that are seen as a priority and cataloguing resources being seen as a lower priority. I don't necessarily agree with it but that is the reality of the situation.” (Participant U – Collections Manager – HE Library)

The issue of other priorities taking precedence over the cataloguing department was highlighted by managers and metadata staff and that because it was not front of house it is often overlooked when budgets were tight.

4.6.7 Receiving extra funding for e-resources

Some participants stated that their libraries had received extra funding during the pandemic to spend specifically on e-books and this helped to build collections and provide key resources for users when access to print books has not been possible:

“from our perspective we were lucky to have that additional funding, we also had some additional funding from the centre to just particularly to buy e-books it just expanded the collection really over the last year and what we have found is anecdotally and of course we haven't looked at usage stats yet, is that students even in those areas that traditionally wouldn't have engaged with e-books are now engaging.” (Participant A – Senior Manager – HE Library)

Cataloguing staff in HE libraries felt that the increased purchasing of e-books was impacting on their workload and that there had been a shift in the tasks they were undertaking as institutions had “raised their game” (Participant E) in terms of making e-resources discoverable.

4.6.8 Considering availability of e-books

E-book suppliers discussed the issue of digital versions of books not always being available or only being obtainable as part of a package so that specific titles cannot be purchased individually. The release of the e-book is sometimes delayed and e-books suppliers stated they are liaising with publishers about this concern:

“these large research libraries that are doing a lot of academic collecting and one of the things too is only 72% is available digitally simultaneously with the print release so we still have about 28% of all academic books don't have a digital version at the time of release of the print book, so there's work to be done here and we're advocating with publishers” (Participant K – Senior Manager – E-book Supplier)

There was a change in the attitudes of publishers during the pandemic as they realised that while libraries were closed, the only option was to provide digital versions of resources.

4.6.9 Having a digital first policy

Several of the institutions participating in the research have a digital first policy meaning that electronic versions of resources will be purchased as the first option. Participants also stated that a large part of collections is now packages that are subscribed to:

“80% of our content budget is on digital now, and then 80% of that 80% is on digital subscriptions so we're subscribing to a lot of digital content...we have an e-first procurement policy we buy digital before we buy print” (Participant T – Senior Manager – HE Library)

The rationale for buying e-first differed depending on the institution, some had made the decision based on lack of shelving space within the library, others considered the practicalities of having campuses in different locations:

“as far back as say 2007/2008 we decided this is the way forward for us because we're a small university, we've got distance learners but we've also got students studying at different campuses quite far apart geographically...getting from one campus to another will maybe take 50 minutes and so we decided that e-first was the way forward for us a long time ago.” (Participant O – Collections Manager – HE Library)

The increase in online studying and blended learning was also a factor in implementing a digital first policy with students not always being on campus, having an electronic collection meant that they can access the resources they need from anywhere.

4.6.10 Accelerating the shift to digital first

As the closure of libraries during national lockdowns meant that users could not access physical books, publishers began to release more titles as e-books and e-book suppliers noticed a shift in the way they worked as a result:

“we had publishers who now wanted to put up whole bunches of new content into the system, we had libraries clamouring for the new content so it has made our lives a lot busier and a lot more time sensitive than potentially we were operating in the past”
(Participant D – Senior Manager – E-book Supplier)

There was a sense from both academic libraries and e-book suppliers that the pandemic had accelerated the shift towards digital and that many institutions were unlikely to go back to buying the same levels of print that they did before:³⁵

“as late as 2016, 70% of revenue..was print book, 30% was digital. We look at this last fiscal year, 69% was digital, 31% was print. So we've basically 180ed in about a five-year window. It was always going digital but slowly, a couple of percentage points, once the pandemic hit it flipped and it just exacerbated and accelerated that trend to the point now where we're kind of at a 70/30 digital split so it's had a massive, massive impact on the way that academic libraries buy.” (Participant K – Senior Manager – E-book Supplier)

E-book suppliers described how libraries are naturally slow to adopt new procedures but that the situation with closures during lockdown forced a digital first policy and that barriers for e-

³⁵ Also appears in (Edwards, 2022) - see Declaration for full details

books were not the hurdles that libraries initially considered them to be. Senior managers in academic libraries felt that there had been progress made because of the pandemic:

“On the positive side of Covid, the fact that we have survived and had to rely so heavily on digital has really I think forced the issue moving to digital and certainly in the last two years the library has made huge in-roads on that” (Participant L – Senior Manager – HE Library)

There was a consensus that the changes brought about by the pandemic would have an on-going impact on the way that libraries purchased content and that this in turn influenced the work of metadata departments:

“we want to shift away from the approach of purchasing ten copies of a textbook that's needed for a large module to try and shift that to electronic as much as possible, so I think that does imply a shift in role for our cataloguers going forward that they'll be handling much less print material and stuff that is routine textbooks that is straight-forward cataloguing, there'll be much less of that and I think they'll be using their skills more on more complex stuff going forwards.” (Participant N – Senior Manager – HE Library)

When participants expanded on this, they focused on the work being conducted by cataloguers to promote what is unique to an institution.

4.6.11 Focusing on special collections and promoting what is unique

As discussed in Section 4.4.4, adopting shelf-ready records and more automated processes meant that metadata staff have more time to catalogue special collections, senior managers in HE libraries felt making these more accessible was important but that this had its own challenges:

“one of our special collections is around artists’ books and how you’re describing an item, it isn’t a traditional book, it may be a book that’s written on a postcard, that is formed as part of jigsaw or something like that, how you describe that in metadata terms is quite challenging but those are really valuable collections so we ought to be making those available and useable as best we can and that’s where I would like to be putting more of our cataloguing and metadata effort, is things like that.”

(Participant C – Senior Manager – HE Library)

Cataloguing staff discussed their institutions wanting to have material that no other library had and purposefully going out and finding special collections and that having niche resources sets a university apart from others in the sector:

“we have taken on a lot of collections, special collections when someone’s been looking to donate a collection and we have put ourselves forward to have these collections and we have a lot of Egyptology books” (Participant M – Metadata Librarian – HE Library)

It was felt that attitudes towards such material were shifting and that promoting unique resources was being considered more as an effective way of branding the university and its library:

“what's our original material?...the things that are original to us are thesis, so I'm always making a big case for how PhD thesis are original, they don't exist anywhere else, we do obviously get harvested by Ethos but they're something that we should be proud of rather than I think in the past it's like 'oh it's another thesis, stick it on the shelf somewhere' but actually they're really well used” (Participant E - Metadata Librarian – HE Library)

Many of the institutions taking part in the research did not have a separate special collections librarian or archivist, cataloguing these resources therefore part of the role of the metadata department. Metadata staff felt that if e-book records that they received did improve and need less correction, then their time could be spent on unique material:

“even if the metadata coming in is completely full and accurate then there's going to be shift in looking at and working on things that we're receiving...the metadata for our special collections or grey literature, the locally produced material that needs doing.” (Participant Q – Metadata Librarian – HE Library)

Senior managers were aware that the skillset of metadata staff was still useful but needed to be directed in different ways and special collections required a greater degree of manual intervention:

“where they can really make a contribution is with unique and distinct collections where you can't derive another record from somewhere else or you need to do that in a more manual intervention that's where they can add value and I think the skillset they have is how that can then be applicable beyond the traditional library catalogue.”
(Participant T – Senior Manager – HE Library).

There was also a notion from those working in research libraries that resources in museums and archives were being used more in teaching and learning and therefore needed to be more accessible and discoverable. The shift to focusing on the on the inside-out collection (Dempsey, 2012; Dempsey et al., 2014; Levine-Clark, 2014) is explored further in Chapter Six.

4.6.12 Conclusion

It was recognised that perceptions of academic libraries have changed users see them more as spaces in which to study and collaborate and less as buildings, which contain books. Print collections are declining and fewer users are spending time browsing the shelves to find resources. However, many participants felt that there was still a need for physical books, particularly if e-book versions were not available or were too expensive.

The Covid-19 pandemic has seen a faster shift to digital content and publishers are making more stock available electronically. E-book suppliers reported that they had seen a substantial change in the balance between print and digital in the past five years.

There is now more of a focus on promoting special collections. Moves towards shelf-ready records for e-books has meant that metadata staff have more time to cataloguing material that is unique to their library.

4.7 Considering the future of cataloguing

A key theme that developed from the in-depth interviews with HE library staff as well as e-book and metadata suppliers, was “considering the future of cataloguing.” Advances in artificial intelligence and machine learning raise questions surrounding the human in-put required for cataloguing. There were also considerations about Linked Data and the future of the MARC record. It was recognised that the scale of resources now available meant that there are significant changes to the role of metadata staff. Concerns were raised about the difficulty in recruiting metadata staff and whether changes needed to be introduced to the training that was available.

4.7.1 Considering whether AI will replace cataloguing

The shift toward shelf-ready have already seen cataloguing becoming more automated and streamlined for libraries, but with developments in artificial intelligence and machine learning, participants considered whether human intervention will always be necessary:

“there's something quite philosophical about how we're cataloguing, we're not cataloguing machines, we're cataloguing outputs of the human brain which are bizarre and human, so in that sense I think there'll always be a need for some humans to have a grasp on that data, because we make sense of things in our own

peculiar way, it's not always a machine learning kind of logic.” (Participant E – Metadata Librarian – HE Library)

As discussed in Section 4.4.2, suppliers felt that human input was needed for aspects of cataloguing such as authority control and subject headings, as computers did not yet have the intellectual capacity to carry out these tasks to a high enough standard. E-book and metadata suppliers who participated in this research felt that completely machine-generated records were still a long way from becoming a reality:

“I know a lot of people have felt the inception of Discovery systems and full text data mining means the importance of a catalogue record is not as important as it once was, I don't feel that yet...I'm curious where Linked Data takes us to, there's a whole bunch of different standards and new ways to look at it but I still think we need some sort of central control, it can't just be machine generated, it's not high enough quality yet.” (Participant K – Senior Manager – E-book Supplier)

There was a notion from participants that a compromise is the use of Linked Data and URIs within MARC records to make library resources more discoverable on the semantic web and that basic records could be machine generated but that more intricate details needed to be added by humans. The possible uses of AI in metadata work (Fernandez, 2016; Mitzig et al., 2016) are examined further in the discussion chapter.

4.7.2 Needing someone to take the lead Linked Data

There was a consensus amongst participants that the MARC format would not be replaced in the near future and that with the right focus, it could be a suitable vehicle for Linked Data. There was also agreement that Linked Data was required to make resources more discoverable in web environments:

“if we can regard MARC data as a useful format and a way of providing library inventories, then we can also repurpose that data and push it out into web environments and linked data environments, and using identifiers and authorities push that out more to where users are on the web and make those linkages more apparent, so that the data can be used for novel research and for connecting resources together and for connecting concepts together in a much more structured way.” (Participant J – Senior Manager – Metadata Intermediary)

There was a sense from metadata staff within the HE libraries who participated in this research, that they wanted more leadership on Linked Data and were looking to some of the key metadata suppliers to fulfil this role:

“with the advent of Linked Data, that's something that we could be encouraging people like OCLC, BDS any of the record vendors, anyone who's got the infrastructure to help us to set up and sustainably maintain centralised data like that” (Participant B – Metadata Librarian – HE Library)

Participants from metadata suppliers gave the impression that they were concerned that there was currently no clear aim in terms of Linked Data and that this needed to be established before moving forward.

4.7.3 Recognising the changing role of cataloguing

With the scale of resources available as part of HE library collections and the size of e-book packages, metadata staff recognise that their role is changing from dealing with individual records to manipulating metadata at a higher level:

“the nature of the work has changed and we're managing things on a much larger scale and I think e-book records has changed that a lot because we ingest so many records and with things like DDA programmes and e-textbooks we've got to be on top of making sure that the records are up to date, that we've got the right records in...you've always needed people in institutions to do this kind of transformation of data and things in bulk, but because you've got so many more records this is becoming more necessary.”

(Participant AA – Metadata Librarian – Purchasing Consortium)

It was also recognised that the lines between job roles had become slightly blurred, that work traditionally carried out by metadata librarians is being undertaken at some institutions by systems librarians or acquisitions staff. As discussed Section 4.4.6, acquisitions staff at some libraries are being briefed by metadata staff on how to check for errors in records. Metadata staff felt that they were still valued in their role but that it was perhaps viewed as less specialised than it used to be.

Senior Managers in HE libraries stated that they looked for different skills now when recruiting metadata staff and that being able to make batch changes to large collections of records was an important ability:

“we need people who are able to discover issues with the metadata and what those issues are, make batch changes to records that will allow us to make the most effective adjustments to our metadata and the most effective enhancements to metadata so that students who are searching these big packages can pick up exactly what they need.” (Participant O – Collections Manager – HE Library)

The shift in skillset still worked towards the same aims of making library resources as discoverable as possible to end-users, even if the format had changed from individual print books to large packages of e-books.

4.7.4 Recognising the difficulty of recruiting

In terms of recruiting metadata staff, some senior managers in HE Libraries and at suppliers expressed concern about the difficulty they had in finding suitable candidates as fewer people are applying for specialist roles:

“For an average library assistant you can still get about 200 applicants for a full-time but something more specialist, you're going to get a lot less than that, you might be lucky to get double figures. So we're seeing a real change in what that looks like and I think we're not alone, in that we hear it across the economy as a whole but I think that'll be really interesting to see what that means and how it will play out for libraries.” (Participant T – Senior Manager – HE Library)

Senior managers also stated that the people who are applying often do not have the skills necessary and that this leads to questions about whether more on the job training should be offered:

“I've been recruiting cataloguers for years and I get people coming for interviews they say they've got cataloguing experience but actually it's not, it requires a huge amount of training, you know at least a year to get somebody either with experience up the level that we would want.” (Participant F – Senior Manager – E-book Supplier)

Metadata staff who participated in this research voiced similar apprehensions about the lack of cataloguing training that was available and how this issue could be resolved.

4.7.5 Requiring better training for cataloguers

There was a notion from metadata staff that the training available for cataloguers needed to be redressed because of the changes to the role and that the skills needed were different to those traditionally taught:

“we really do need to go back and look at the syllabus for training cataloguers and metadata managers now, because they're not just going work in the libraries, they'll be working with publishers, with aggregators...so we need people to be conversant with standards, we need them to be capable of creating and manipulating metadata at scale and we need them to be able to think about the infrastructure that we need to for linked data to make it a reality.” (Participant B – Metadata Librarian – HE Library)

Training for metadata staff once in post is also scarce and that when it is availability questions are raised about the time and the funding to do it. This could have implications for the profession if there is a lack of trained cataloguers:

“I found that you could get training in almost everything else certainly like open access when I first started my job, everything available was on open access but there was nothing on any level of sort or cataloguing and that hasn't massively changed. I think it probably will in the next five, ten years but a lot of people will have been lost to the profession by that point.” (Participant E – Metadata Librarian – HE Library)

Some metadata librarians in HE libraries and at suppliers spoke about teaching opportunities on LIS courses at universities and how valuable these were, in order to be able to raise awareness of the possibilities of the role of a cataloguer:

“I teach classes in cataloguing and metadata creation and that has been great because it's good to speak to future librarians because they maybe are not aware of the possibilities that are out there for cataloguers and metadata experts, because there is much need now for people to work on metadata and manipulate metadata that's very important.” (Participant EE – Metadata Librarian – E-book Supplier)

A possible solution suggested by one participant was to offer more work-placements and traineeship in metadata departments for university students so that they gained the necessary skills.

4.7.6 Conclusion

Participants were in agreement that artificial intelligence and machine learning were not yet development enough to carry out the more intellectual tasks in cataloguing such as authority control work and adding subject appropriate subject headings. With Linked Data and the scale of e-book packages there were changes in the role of metadata staff to be more technical and work at scale rather than on individual records.

Senior managers raised the issue of the difficulty in recruiting metadata staff because of a lack of candidates applying with the necessary skills. This presents more questions about the training available for LIS students as well as continuing professional development opportunities for those who are already in the sector.

4.8 Conclusion

This chapter has shown from the findings that metadata staff at both HE libraries and at suppliers who participated in this research felt that the awareness of their colleagues needed to be increased about the value of their work and the importance of metadata. Cataloguing was described as a hidden service because it is not customer facing and there was a notion that the work metadata staff do, is not understood particularly well by colleagues outside the department or by end-users. Tensions were highlighted between senior managers and metadata staff surrounding what form a record that is 'good enough' should take and how much time should be spent correcting and enhancing metadata for e-book collections.

The main impetus of participants for collaborating appeared to be strongly associated with motivation for joining the LIS profession; the desire to support others in finding the resources and help that they need to progress. For participants from libraries, collaboration was also viewed as a way to have a stronger voice and to gain more robust negotiating powers. The findings have highlighted significant differences between the two consortia involved in this research regarding the existence of communities of practice for metadata staff and to what degree these are supported at an organisational level.

E-book and metadata suppliers who participated in this research gave the impression that their relationship with academic libraries was a positive partnership. Metadata staff in HE libraries stated that they did not always inform suppliers about errors in records, as it was often easier and swifter to correct the faults themselves. Licensing of records was highlighted as an issue with negotiations occurring nationally to make the bibliographic metadata ecosystem more open and records easier to share and re-use.

Participants for e-book suppliers stipulated that they get metadata from various sources and that it goes through an automated process to create a basic MARC record that can be shared with libraries, but that a higher standard record needs human intervention to add more detail. The instantaneousness of e-books means that libraries were satisfied to have a brief record as an interim measure until a fuller record was available. The majority of HE libraries participating in this research are using shelf-ready records either from suppliers directly or through the Community Zone. HE library metadata staff expressed frustration about not being able to share and re-use records that they had corrected because of restrictive licensing and felt that workflows were being duplicated. However, suppliers stated that there was a complexity to the issue and that libraries were not always aware of the cost of creating records. The Covid-19 pandemic has led to many participants working more from home and because of an increase in the number of e-books being purchased by HE libraries, more metadata staff are now trained in cataloguing e-books.

The findings showed that there are quality issues with records, but that some suppliers provided better metadata than others. Several libraries that participated in this research use the Community Zone as their key source for records but drew attention to the inconsistent quality of the metadata provided in it. Metadata and e-book suppliers felt that quality management was a matter for the whole bibliographic metadata ecosystem to work together

on and explained how they liaised with publishers and other providers to improve the metadata. There are developments on providing suppliers with standards to meet, as NAG and SUPC have a sample template record that gives a benchmark for those vendors who are part of the Joint Consortia Framework Agreement to show that they have the capability of meeting.

Growing digital collections have led to a change in the role of HE libraries and how they are utilised by end-users. The Covid-19 pandemic accelerated the shift to digital because a number of lockdowns led to libraries being closed, meaning only electronic resources were available to end-users. Several participants commented on the popularity of reading lists amongst end-users and how this impacted on library collections and on their work. As many libraries now have similar digital collections that they provide access to, the emphasis has shifted to promoting collections that are unique to the institution.

Progress in AI and machine learning led some participants to consider the necessity of human in-put in metadata work. There was a notion that the more intellectual cataloguing tasks, such as adding subject headings and authorities, still needed to be undertaken by hand. It was recognised that the scale of digital collections meant that the role of metadata staff had changed considerably with more manipulation of batches of records rather than the more traditional work of focusing on individual records. Senior managers in HE libraries and at suppliers who participated in this research voiced concerns about the difficulties in recruiting metadata staff; this raises questions about training available to LIS students and to professionals who are already working in the sector.

This chapter has considered the initial findings of the research by focusing on seven key themes that developed through thematic analysis; these were explored further through situational analysis as discussed in the next chapter.

Chapter Five: Situational Analysis

This chapter outlines the use of situational analysis within the research and details the use of mapping that was conducted after initial analysis as a method for both sense checking the findings and further exploring the data. As discussed in Chapter Three, this study was informed by a constructivist research approach and therefore its design was emergent. As Lincoln & Guba (1985) suggest, the occurrence of several realities and the uncertainty in which a researcher interacts in the context of the field, means that the design has to be emergent. Thematic analysis was utilised to explore the data and develop themes, this was undertaken concurrently to the data being collected and in turn guided the design. After the initial findings had been written, a need emerged to gain a stronger understanding of the bibliographic metadata ecosystem. The decision was therefore made to undertake situation analysis, to help establish a clearer overview of the data and to develop elements further in preparation for discussion chapter. Situational analysis deploys cartographic methods to investigate the situation in its entirety as opposed to specific connections and practices (Clarke, 2005; Clarke, Friese, & Washburn, 2015). Examples of situational maps, social worlds/arenas maps and positional maps (Clarke, 2005) are presented.

5.1 Situational maps

Situational maps are a key way of distinguishing “the analytically pertinent human and nonhuman, material, and symbolic/discursive elements of a particular situation” (Clarke, 2005, p.87). The construction of situational maps is divided into the three stages:

- Messy situational maps
- Ordered situational maps
- Relational analysis

5.1.1 Messy situational map

A messy situational map was created by going back through the data and the findings chapters to categorise the different individual human, collective human and non-human elements as well as more discursive elements. It was decided to take create just one messy situational map encompassing all of the data, because despite there being two HE library consortia in the data as well as a number of e-book and metadata suppliers, they are all part of the same situation and elements of what is framed as the bibliographic metadata ecosystem. The process was useful for mapping the different elements, particularly for considering in more detail some of the symbolic elements such as cataloguer identity and concepts of communities of practice. Figure 3 is an image of the messy situational map that was firstly written by hand as recommended by (Clarke, 2005) as a way of making the map more easily editable and manageable for the researcher:



Figure 3: Messy Situational Map

[illegible]

Spatial elements

Major issues/debates

Practices

Discursive constructions of Individual and/or collective human actors

Political/economic elements

Sociocultural/symbolic elements

Temporal elements

196

5.1.2 Ordered situational map

The ordered situational map was created by utilising the data in the messy situational map. The categories are suggested by Clarke (2005) and are based her own research and Strauss's "concept of "orders" and their subtypes: spatial, temporal, technological, work, sentimental, moral, and esthetic orders" (Strauss & Maines, 1993, p.152). The spatial element of regional variations of collaboration, in terms of the different approaches to communities of practice within the two consortia involved in this research is discussed in Section 4.2, the process of situational analysis has reinforced the findings that will now be built upon in the discussion chapter. Figure 5 is an image of the ordered situational map:

INDIVIDUAL HUMAN ELEMENTS/ACTORS

Metadata staff at HE Libraries, Senior Managers/Library Directors at HE Libraries, Managers at e-book/metadata suppliers, Metadata staff at e-book suppliers/metadata suppliers, Managers at purchasing consortia, Managers at Metadata Intermediaries.

COLLECTIVE HUMAN ELEMENTS/ACTORS

HE Library Consortia, HE Library Purchasing Consortia, E-book/Metadata Suppliers, Jisc, OCLC, CILIP, MADSIG, LMS providers, SCONUL, RLUK, NAG, Publishers, NISO

DISCURSIVE CONSTRUCTIONS|INDIVIDUAL AND/OR COLLECTIVE HUMAN ACTORS

Stereotypes of cataloguers, librarians being naturally collaborative, going unnoticed, monopolising the space

NONHUMAN ELEMENTS ACTORS/ACTANTS

LMS, MARC records, RDA Standards, NBK, NAG/SUPC report, Jisc/OCLC National Metadata Agreement, the Community Zone

IMPLICATED SILENT ACTORS/ACTANTS

Subject librarians, publishers, acquisitions staff, end-users, frontline staff, academics, students

DISCURSIVE CONSTRUCTION OF NONHUMAN ACTORS

Idea of what constitutes a quality record, discussions around the quality of Community Zone records

POLITICAL/ECONOMIC ELEMENTS

Shrinking library budgets, #EBOOKSOS,
the price of e-books

TEMPORAL ELEMENTS

Covid-19 Pandemic, the Academic Cycle

MAJOR ISSUES/DEBATES**(USUALLY CONTESTED)**

Value of cataloguing, what is good enough/fit for purpose?
Should metadata be freely re-shareable?, Notions of sufficing

PRACTICES

Getting your voice heard, working from home, having
a small team, feeling isolated, using LCSH, creating RDA templates
sharing records, receiving incorrect data, resolving licencing issues,
standardising records, sharing good practice, being stronger together,
working collectively to get better deals, sharing experiences, lobbying
suppliers

SOCIOCULTURAL/SYMBOLIC ELEMENTS

Symbolisms of cataloguer identity, Concepts of communities
of practice

SPATIAL ELEMENTS

Regional variations surrounding collaboration depending on
location/size of consortia and institution

RELATED DISCOURSES (HISTORICAL**NARRATIVE AND/OR VISUAL)**

NAG/SUPC report, Plan M documentation, discourse around
communities of practice, discourse around quality
Cataloguing

Figure 5: Ordered situational map

5.1.3 Relational analysis

The process for relational analysis was to print off several copies of the messy situational map and consider the relations between every element in turn, then to draw lines between those that are related, and write memos after each mapping session. Clarke (2005) suggests stipulating the type of relation between the elements and in doing this determine which relations to engage with in more detail. In a similar vain to the messy map, the relational analysis was carried out by hand and then transferred to PowerPoint. Figure 6 is an image of a handwritten relational analysis; at this stage, the researcher did not distinguish the different types of relations:

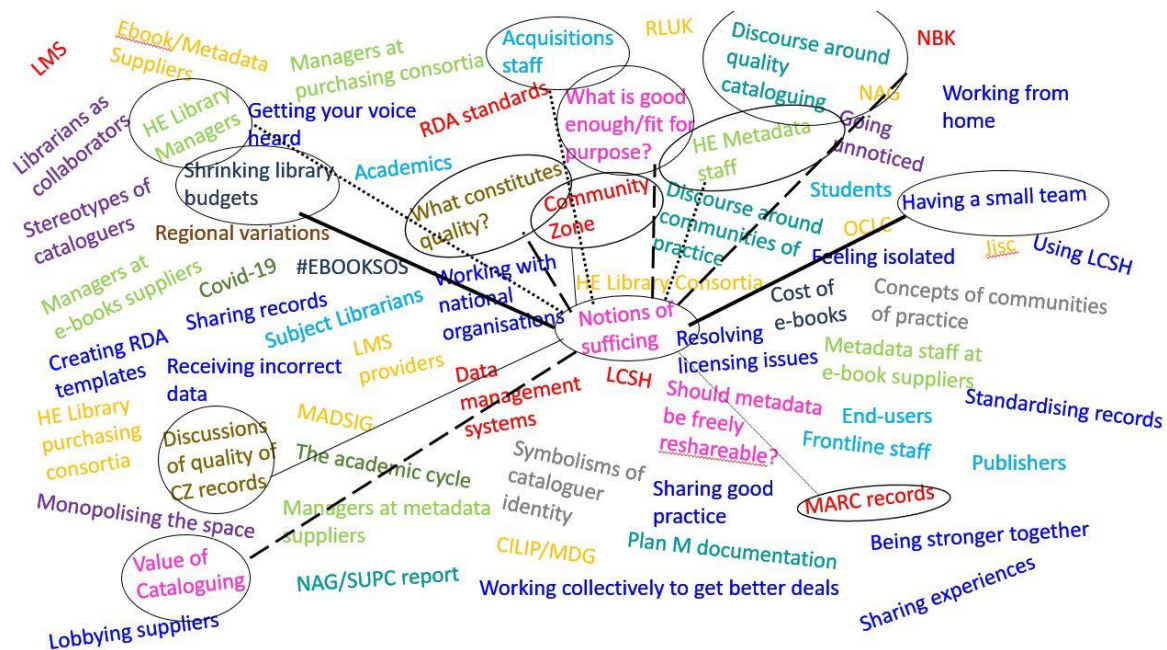


Figure 7: Relational analysis transferred to PowerPoint – Notions of sufficing

Within the relational analysis of notions of sufficing, three different relations were identified:

- Rationale for sufficing such as having a small team (thicker solid lines)
- The individual human actors involved in sufficing (dotted lines)
- Discourses related to sufficing such as what constitutes quality. (thicker dashed lines)

Notions of sufficing was not an initial theme identified during thematic analysis but as the findings sections developed, the element became more evident and was therefore included in the situational maps as a major issue/debate. The relational analysis of this element has helped the researcher to elaborate further on how notions of sufficing fit within the data.

5.2 Social worlds/arenas maps

Social worlds/arenas maps focus on the collectives within particular situation, the aim is to decipher “which social worlds and sub worlds or segments come together in a particular arena and why” (Clarke, 2005 p.102). The decision was taken that within the data collected for this research, although there were several social worlds, they were all part of the same arena, the bibliographic metadata ecosystem. Figure 8 is an image of the social worlds/arenas map constructed as part of the analysis of this research; this is followed by Figure 9, which shows the memos written as the map was created:

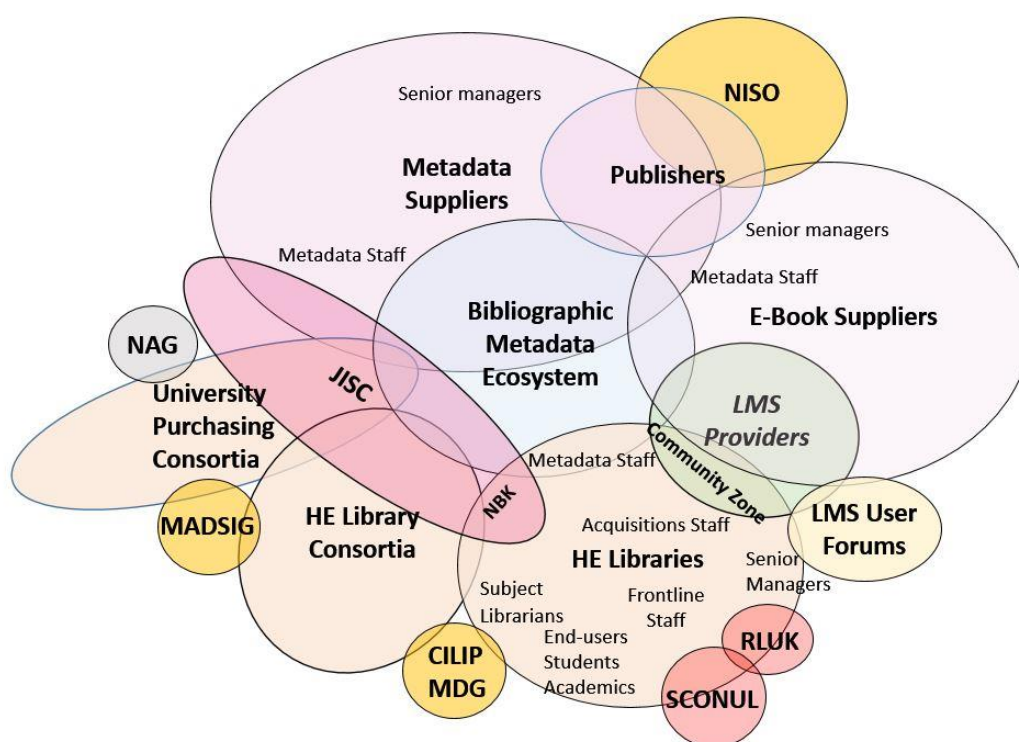


Figure 8: Social worlds/arenas map – Bibliographic metadata ecosystem

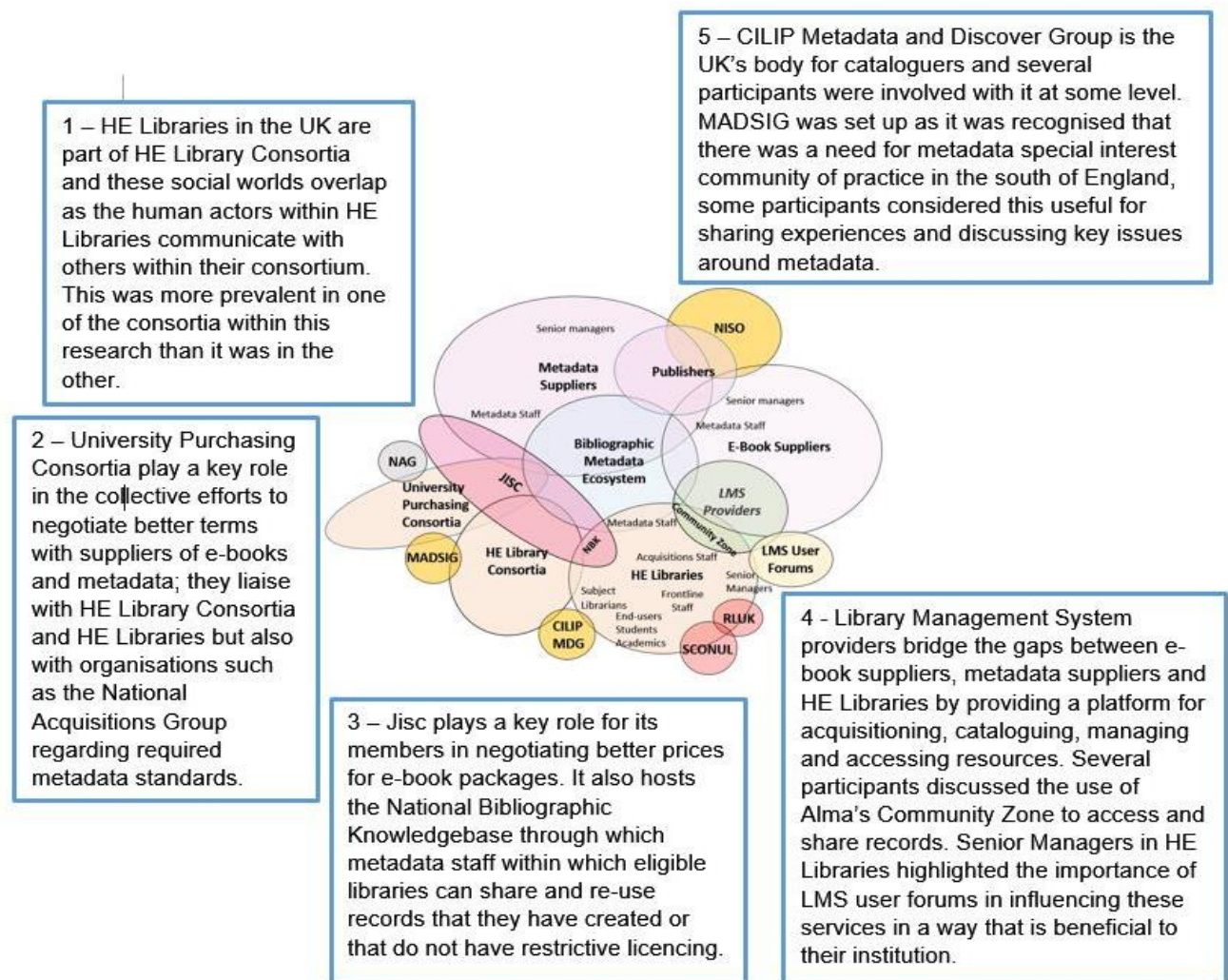


Figure 9: Detail of Social worlds/arenas map – Bibliographic metadata ecosystem

5.2.1 Description of social worlds/arenas map

The map was constructed using data from the research conversations with participants from all groups that were part of the research, including senior managers and metadata librarians from HE library consortia and senior managers and metadata staff from e-book and metadata suppliers. There was a definitive split between the bottom left of the map which features the social worlds of HE libraries, HE library consortia and university purchasing consortia; and the top right of the map which features the social worlds of metadata

suppliers, publishers and e-book suppliers. These social worlds did converge through their metadata staff who collaborate as part of the CILIP Metadata and Discovery Group. The user forums ran by suppliers also provide a space in which conversations are facilitated between senior managers in HE libraries and management staff at the suppliers. Jisc is seen as an organisation that facilitates better communication and negotiation between libraries and suppliers and as providing a space through the NBK in which libraries can share and re-use records, this was seen as key in the efforts to de-duplicate workflows and promote collaborative cataloguing.

The HE libraries social world features the participants of the research as well as other key human actors that are present in the data including acquisitions staff, subject librarians, frontline staff, end users, students and academics. Acquisitions staff in particular were highlighted in the data as playing a key role in the quality assurance of e-book metadata. They were being briefed by metadata staff on how to triage records to ensure that they were meeting a certain standard. Several participants also discussed how both metadata and acquisitions staff use Alma's Community Zone to order resources and obtain the records for them.

5.2.2 Summary of social worlds/arenas map

Constructing the map was particularly valuable in creating a stronger sense of the communities of practice operating and how the human actors from different social worlds participate within them. It also aided the researcher in seeing the links between the social worlds and where overlaps were occurring, particularly between factions that have conflicting agendas, the definite split between the social worlds of suppliers and libraries was bridged

by certain commonalities, which became more apparent to the researcher through the process of situational analysis.

5.3 Positional maps

In order to construct positional maps, the researcher clarified from the data what the major issues were by referring back to the data in the transcripts, the initial coding and the situational maps (Clarke, 2005). Two key areas, in which different positions were taken, were the value of cataloguing and the cost of metadata. Clarke (2005) stipulates that the positions should be considered irrespective of the actors who convey them or the social worlds that they operate in, because individuals may express inconsistent views on a particular topic. Figure 10 presents the positional map of the value of cataloguing:

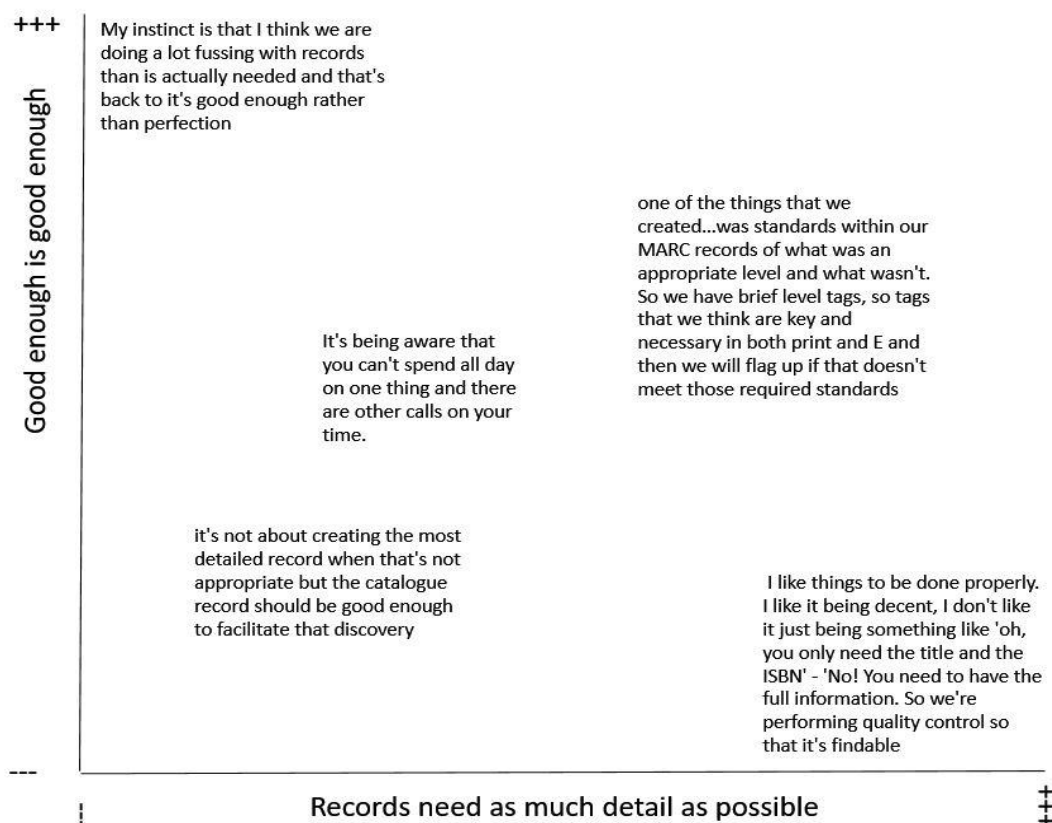


Figure 10: Positional map – the value of cataloguing

The map highlights the positions on the issue of the value of cataloguing by presenting them along two axes which are scaled from less to more (Clarke, 2005). The axes are labelled with two positions taken within the data; 'good enough' is 'good enough', and records need as much detail as possible. Mapping these positions reiterated a variety of stances spanning from views that cataloguers spend more time fussing with records than is needed, to views that as full a description as possible is required to make resources findable.

Another major issue that was contested at times in the data was that of the cost of metadata and whether records should be freely re-shareable. The positions developed from within this situation of enquiry are represented in Figure 11:

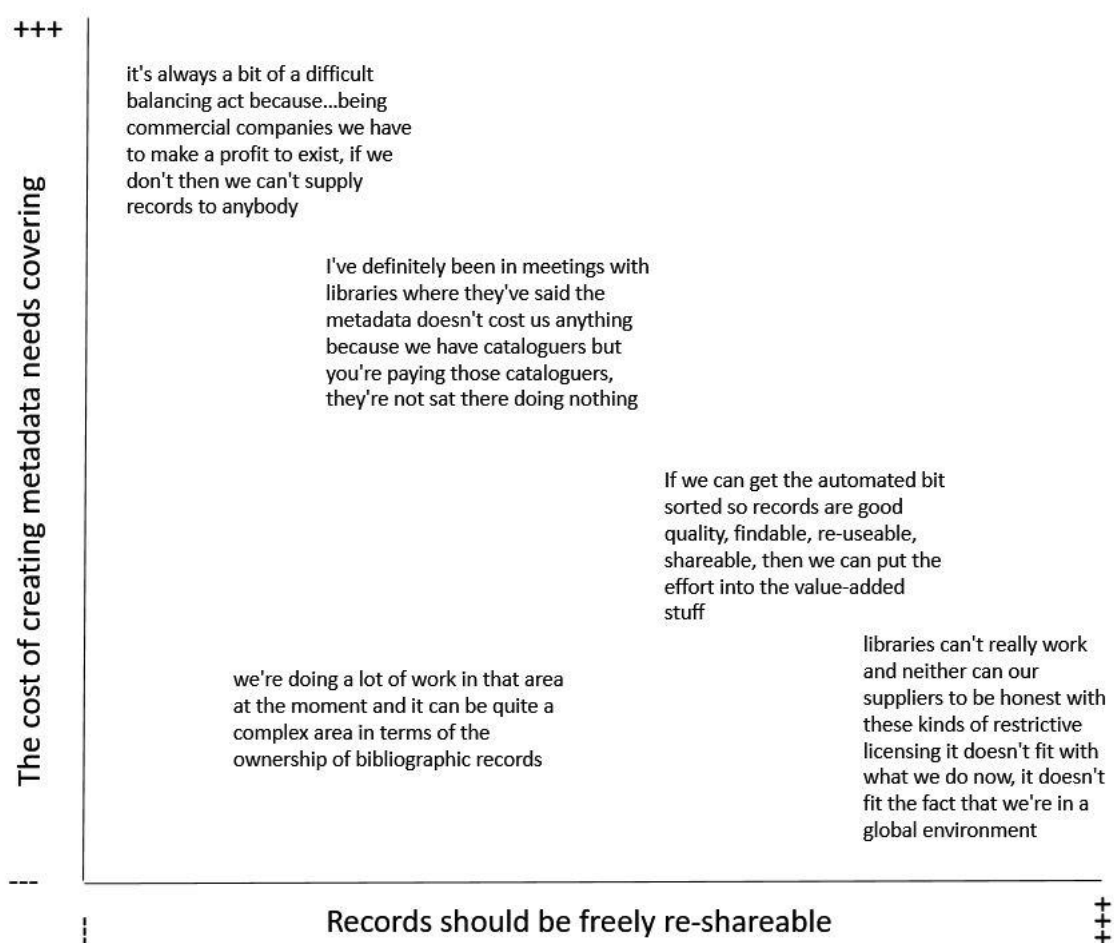


Figure 11: Positional map – the cost of metadata

The two axes for this positional map show positions relating to the idea that the cost of metadata needs covering, and the view that records should be freely re-shareable. This positional map in particular aided the visualisation of the various positions more clearly and facilitated a stronger understanding of the wider situation. The supply chain for metadata is complex and it was beneficial to consider the balance between the positions expressed in the data regarding this.

5.4 Conclusion

The different stages of situational analysis are summarised in this chapter and the various mapping exercises suggested by Clarke are explored. The grounds for conducting the maps are highlighted, examples of each stage of the analysis are presented and considerations are made about the value of these analyses in terms of their contribution to the research.

Situational analysis has helped to sense-check the findings from the thematic analysis stage of the research and given a clearer view of how the different human actors operate within the social worlds apparent in the data. Particular themes were developed further; the situational maps assisted in exploring more closely the element that was identified as the notion of sufficing, the positional map on the value of cataloguing, aided the researcher to consider in more detail the idea of triaging records and how this is presented in the data. The themes that have become more apparent through situational analysis will be integrated with those already discussed in the initial findings chapter to form the discussion chapter of this research.

Chapter Six: Discussion

This chapter will discuss the research findings that have been presented in Chapter Five and explored further through situational analysis in Chapter Six. The situational analysis presented in the previous chapter, assisted in understanding in more detail of the relationships between the different human actors within the bibliographic metadata ecosystem and this chapter builds on the social worlds/arenas maps from Section 5.2 to present a more detailed diagram that also reflects the drivers and contextual factors involved.

This chapter will highlight significant literature from Chapter Two, in order to ascertain how the findings of this research contribute to existing theory and the LIS field. This discussion is divided into four main sections, which have been selected because they align with the common themes that emerged from the data during the initial thematic analysis and the subsequent situational analysis. Each of these sections are also connected through their alignment with Communities of Practice theory. Firstly, professional identities and communities of practice are considered in terms of the perceptions metadata staff hold of themselves and how they are perceived by other human actors identified within this research. This section focuses on the different ways in which metadata staff collaborate and how this applies to the existing theory of Communities of Practice. The second section examines hidden services and how the work that is undertaken by metadata staff often goes unnoticed, this links to theory of the invisibility of infrastructures (Karasti & Blomberg, 2018; Star & Ruhleder, 1996). This section also reiterates the notion that the communities of practice that metadata staff are involved in are frequently isolated and are possibly counter-cultural. Section 6.3 considers the notion of sufficing and the tensions surrounding 'good enough' and fit-for-purpose records and explores in more detail the difficulties

around defining quality and what a 'gold standard' record should be, as well as the value of cataloguing and how this could be measured using the Value Scorecard (Town & Kyriallidou, 2013; Town, 2015). The pressures highlighted also emphasise the differing views of the communities of practice that the various actors within this research belong to. The fourth section explores the automation and de-duplication of workflows and how this fits with changes in stewardship of collections at both research and teaching universities, this is considered within the wider context of the future of library services and service concepts (Dempsey, 2012, 2016, 2017; Dempsey et al., 2014). This section also discusses the impact of automation and developments such as AI and Machine Learning on the role of metadata staff and the skills they require, the difficulties in recruiting into the cataloguing profession are also considered, this links to how the development needs of communities of practice are affected.

6.1 Professional identities and communities of practice

This section focuses on professional identities in terms of how metadata staff are perceived both by themselves and by other actors identified in this research. The data within this research pointed to a tension between metadata staff and senior managers, both within HE libraries and e-book suppliers. There was evidence of criticism from managers of metadata staff surrounding the amount of attention and effort given to correcting or enhancing records and disagreements over notions of fullness of description were apparent. Metadata librarians who participated in the research highlighted the importance of extra information in the records increasing the discoverability of resources through serendipitous searching, as not all end-users are searching for a specific title or author. This conflict in attitudes is reinforced in the

literature with library directors taking a view that records need to be 'good enough' and that end-users are apathetic about additional details in records (Medeiros, 2011).

Metadata staff at e-book suppliers expressed frustration at having to explain the importance of cataloguing to senior managers. External metadata suppliers and metadata intermediaries stated that e-book suppliers do not want to undertake cataloguing and that they view it as a considerable overhead. However, it was recognised by both managers and cataloguers at e-book suppliers, who participated in this research, that improved cooperation across the bibliographic metadata ecosystem was required. Within the literature, publishers highlighted the growing need for quality metadata because of the increase in e-books and that this was an immense challenge (Vassallo, 2016). Publishers also articulated concerns that there is a reliance on others in the ecosystem, such as aggregators, to guarantee the metadata is correctly processed (Vassallo, 2016).

The research in this thesis identified that metadata staff viewed themselves as perfectionists, who enjoyed the attention to detail that is required in their role. They discussed key elements of their identity, which made them feel part of the metadata community, these included a recognition that tasks should be undertaken properly and that rules need to be adhered to. The sense of a certain fastidiousness, supports to an extent the stereotypes in the literature of cataloguers being reclusive perfectionists and the last bastions of change (Banush, 2008; Brice & Shanley-Roberts, 2009; Weng & Ackerman, 2017). There was a sense within the findings of this thesis that this opinion is still held to some extent by senior managers who expressed frustration about "fussing" over records and that a more pragmatic view was needed to deal with vast amount of records now ingested into LMS.

This research also established that other key elements of the identity of professionals within the LIS community are collaborating and pooling knowledge, with the rationale for this being intrinsically linked to the urge to help other people to develop and study. There was also an impression given by the participants in this thesis that a motivation for joining and contributing to communities of practice is a desire to support the greater good and advancement of the sector. Within the literature this sense of an ethical obligation to support colleagues within the profession and to give something back is also highlighted (McLure Wasko & Faraj, 2000). Librarians have strong capabilities in the field of information science and in the preservation and sharing of knowledge. This is reflected in the literature which highlights that communities of practice are particularly significant because a proportion of the knowledge that requirements management only subsists in the heads of members of staff, who as part of these communities, share what they know so that it is internalised by others and fresh knowledge is formed (Louque, 2021; Taylor, 2004).

The research in this thesis ascertained a difference between the two consortia who participated, in terms of the existence of communities of practice for metadata staff, with the size of the consortia appearing to be key. There was evidence within the smaller consortium of a resilient, cooperative force and several streams of communication between cataloguers, whereas at the larger consortium, the connections between metadata staff were not as robust and less well facilitated. Participants from the latter consortium stated that they had set up their own community of practice for metadata staff within a particular geographical area because there was a lack of opportunity for such collaboration within their own consortium. Regardless of the size of the consortia, the facilitation of communities of practice appears to be a crucial element in their strength and activities, the smaller consortium have a cataloguing and metadata group that meet regularly and have set aims for improving

practice. The larger consortium does not have a group for metadata staff or the same streams of communication between cataloguers. This thesis points to a requirement of communities of practice within the metadata ecosystem to have a level of management and organisation (Henrich & Attebury, 2010), but that the structuring and meeting of these communities, as well as the retention of meaningful connections amongst members becomes more difficult as the size of the group expands (Roberts, 2006). This thesis details how the Covid-19 pandemic has led metadata staff to continue to work from home and that using ICT to meet virtually rather than in person eases some of these challenges. However, Cox (2005) and Eraut (2002) highlight how 21st century working conditions can restrict the engagement between members of communities of practice and that working remotely removes the opportunities for meeting in a shared, independent space (such as that utilised by Orr's (1996) engineers). Online meetings may be more convenient to organise because participants are not required to be at the same location, but it could be argued that these exchanges are less direct and concentrated (Cox, 2005). Remote working also eliminates the possibility of ad-hoc conversations between colleagues that can be valuable as a means of advancing communities of practice.

Communities of practice can differ greatly in the characteristics that they have, but they all consist of three key commonalities (Wenger et al., 2002), which are presented in the table below, alongside how the two consortia that participated in this research correlate with them:

Element	Consortium A	Consortium B
“Domain” - establishes the aims of the community and motivates its members to share, and provides direction for their learning, by assisting them to make decisions on how to impart and pursue different concepts	Has a recognised metadata group which has set aims, including developing training, increasing the quality of metadata, sharing records within the UK and globally.	No recognised group for metadata staff within the consortium who participated in the research, they stated that they had links with CoPs outside of the consortium such as CILIP MDG, NAG and MADSIG.
“Community” - promotes communication and connections that are founded on a reciprocal confidence. It nurtures a readiness to disclose ideas, reveal a lack of knowledge and pose hard queries	The group meets regularly, they also communicate through their own email list and Yammer. Participants who were part of this group highlighted the sharing of experiences and asking each other for help with particular issues and a satisfaction gained from helping others to learn and improve the services that they provide	Metadata staff were often the only people undertaking their role at their institution and did not have contact with other metadata staff within the consortium, unless it was through outside links such as CILIP MDG and MADSIG
“Practice” – the particular information that the group cultivates and preserves this might be specific structures, knowledge and language	This community have worked together to produce common standards through developing RDA templates for a variety of materials so that there is more consistency across the consortium when creating metadata	Although there was no evidence of a recognised CoP within the consortium, the participants did use specific structures, knowledge and language from being part of a wider community.

Table 3: Elements of Communities of Practice (Adapted from Wenger et al., 2002, p.28)

There can be major differences between communities of practice regarding the recognition they receive from official institutions (Wenger et al., 2002). The community of practice within Consortium A could be seen as institutionalised because of the status that it has within the organisation, whereas the community of practice that has members from Consortium B in, is not directly linked to the

organisation, but has an amount of legitimacy within the HE sector, as various bodies such as NAG and CILIP MDG engage with this group. The status of a community of practice has an impact on how it functions and the knowledge that is formed within it (Brown & Duguid, 1991; Cox, 2005; Wenger et al., 2002). A more institutionalised community of practice may have management input from the business that it is part of and have a more static delineation, meaning there is less opportunity for developing (Wenger et al., 2002). There is also the consideration that these types of communities of practice rely more heavily on canonical knowledge because of the stronger links to their parent organisation and are therefore possibly less receptive to more non-canonical practices that can be equally if not more valuable (Brown & Duguid, 1991). Whilst canonical knowledge can be a useful resource, it takes the form of static, written documents that be imposing and isolating, whereas non-canonical knowledge is spoken, co-operative and extemporised (Cox, 2005). Consortium A's community of practice demonstrates the utilisation of canonical knowledge through the creation of RDA templates. It could also be argued that because the community of practice is closely tied to the consortium and uses institutional channels such as Yammer and email to communicate, that members may feel more constrained about the issues they are able to discuss. There was a sense that participants from Consortium B, who were part of a breakaway community of practice, which formed independently of their organisation, had a more counter-cultural attitude and felt more able to discuss some issues more openly.

The two consortia who participated in this research are part of a wider bibliographic metadata ecosystem, which contains a range of communities of practice and organisations. Creating the social worlds/arenas map in the previous chapter helped to gain a clearer picture of how the different individual and collective human actors are linked in this bibliographic metadata ecosystem. This is revisited in this chapter in

order to gain a clearer perspective of how these relationships play a part in the communities of practice that are present at institutional, consortial and national levels. Figure 12 shows the different layers of collaboration and how this fits with the flow of metadata between the individual and collective human actors present in the data:

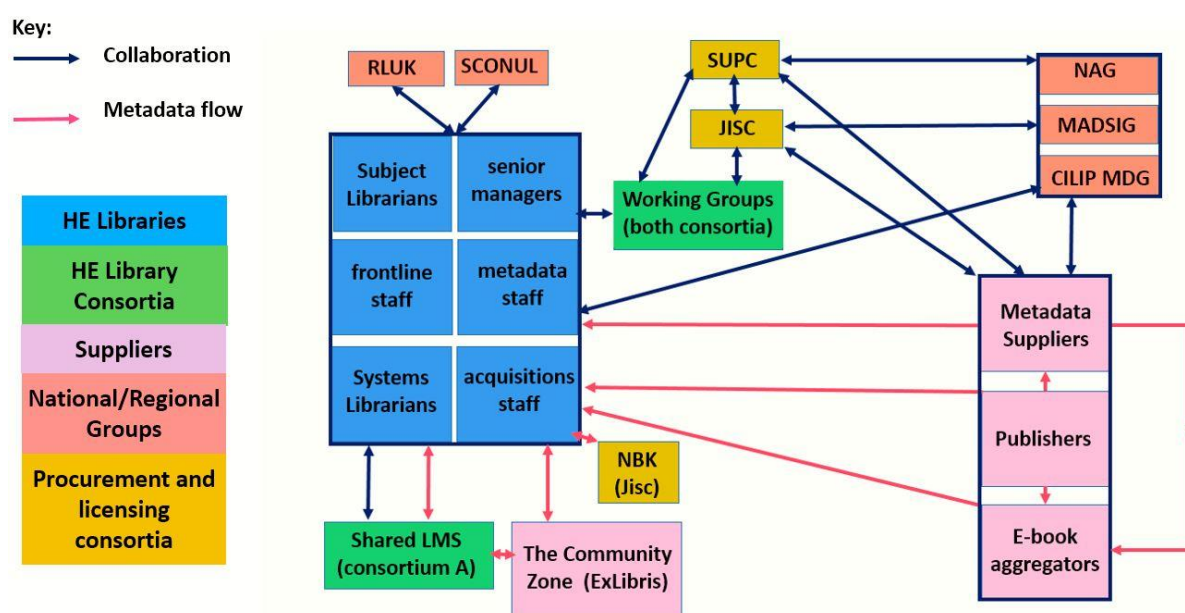


Figure 12: Collaboration and metadata flow in the bibliographic metadata ecosystem

The figure comprises five key aspects; HE libraries, HE library consortia, suppliers, national and regional bodies, and procurement and licensing consortia. The different actors who collaborate regarding metadata within HE libraries are metadata staff, acquisitions staff, Systems Librarians, frontline staff, Subject Librarians and senior managers. They also interact through consortial working groups on a number of topics, including metadata. For Consortium A, there is an added level of collaboration and sharing of metadata through a unified LMS, this also includes a two-way distribution of metadata through the LMS suppliers' Community Zone.

The suppliers also consist of publishers, metadata suppliers and e-book aggregators who collaborate with each other and provide metadata to HE libraries. Suppliers also collaborate with HE libraries through national and regional groups such as NAG, CILIP MDG and MADSIG. Other national groups such as SCONUL and RLUK network with HE libraries. Procurement and licensing consortia such as Jisc and SUPC work closely with both HE libraries and suppliers. Jisc also facilitates the sharing of metadata through the NBK. The figure highlights on two different types of relationships between the various actors; collaborations and metadata flows.

Whilst metadata staff within HE libraries collaborate with their colleagues at an institutional level (as shown within the group of blue squares within Figure 12), metadata staff within Consortium A, also collaborate at a consortium level through the shared LMS and working groups, which support their community of practice. Consortium B has working groups, but not specifically for metadata staff, participants who are senior managers within this consortium discussed the benefits of being members of working groups as well as collaborating through RLUK and SCONUL. However, metadata staff within Consortium B who participated in this research gave the impression that there was not many opportunities to collaborate with others in similar roles within the consortium.

The working groups from both consortia collaborated with Jisc and SUPC. These procurement and licensing organisations, have little direct participation in metadata transactions, but the data highlights the work that they undertake in advocating for libraries in their goal of acquiring high quality metadata, and supporting vendors to make improvements to the records that they supply. Metadata suppliers, publishers

and e-book aggregators collaborate closely with each other and share metadata (as shown within the group of purple squares within Figure 12).

Metadata staff at both consortia expressed the importance of working at a national level through communities of practice such as CILIP MDG and NAG. It was also recognised that different regional communities of practice, such as MADSIG and the Mercian Metadata Group, were able to share ideas and experiences (as shown within the group of pink squares within Figure 12). Metadata staff reported that they did not often collaborate with metadata suppliers at an institutional level, but did liaise with them through their membership of regional and national communities of practice. This highlights a tension between the routine contact with suppliers that metadata staff have as part of their role, where they may need to be critical of the metadata supplied and the work of the suppliers, and the more conducive interactions that these actors then have when they meet as part of the communities of practice that they are members of. At an institutional and consortial level, metadata staff are sharing experiences of suppliers that are often negative, whereas at a regional and national level their relationships are more collegial. Different actors within the bibliographic metadata ecosystem may face a variety of pressures and internal conflict that stems from their membership to multiple communities of practice and the blurring of the boundaries between these (Cox, 2005; Li et al., 2009; Wenger, 1998, 2010). Each community of practice is not secluded, but instead it belongs to wider social structures, which include other communities and organisations, therefore there are numerous communities that actors will belong to and learn from (Wenger, 1998; Wenger, 2010). The bibliographic metadata ecosystem has several communities of practice with different actors participating in more than one.

The data also highlighted that outside of these communities, there was a lack of awareness of the work that they undertake, this is discussed further in the next section.

6.2 Hidden Services

Within this research, the metadata department was viewed by several participants as a hidden service, because it is a back of house rather than front and centre. There were not only concerns about a lack of appreciation from the wider institutions, but also from within the participants' libraries themselves. This research points to there being a disconnection between frontline staff and metadata services, that customer-facing colleagues have little or no contact with cataloguers, there was a notion that there would only be interactions if something went wrong or a resource could not be found. This links to the idea that the communities of practice that metadata staff belong, may have a counter-cultural attitude (Brown & Duguid, 1991; Orr, 1996), this is also highlighted by the tensions involving sufficing that are discussed in Section 6.3.

Metadata librarians who participated in this research also stated that the more seamless searching and access was for end-users, the less they would be aware of the work being undertaken to make this possible. It was recognised, however, that making the information seeking experience as frictionless as possible was a key part of their role and that was a crucial element of library infrastructure. Discovery layers and library catalogues are part of key library infrastructures that are regarded as uninteresting and routine, to the point that they are intended to be invisible (Karasti & Blomberg, 2018). A significant amount of energy and expenditure is deployed to

make such systems go unnoticed and this is often a characteristic that leads them to be of value (Appadurai, 2014; Karasti & Blomberg, 2018). The main purpose of these infrastructures is to provide a frictionless service to end-users for them to be able to retrieve the resources that they require, therefore they might not be perceived as innately significant to workflows by end-users themselves. HE metadata staff who participated in this research stated that the only feedback they got from users was if they could not access resources. As Star & Ruhleder (1996) suggest, infrastructures remain invisible until there is an issue with them and then actions taken to rectify any difficulties, increase focus on them. In terms of the shrinking budgets of HE libraries and the streamlining of services, this may mean that the senior managers who are making key decisions regarding the work being undertaken by metadata staff and how essential it is, do not necessarily fully appreciate the context (Star & Strauss, 1999). This is reiterated in the data as participants from metadata departments, both at HE libraries and suppliers expressed frustration at having to justify the necessity of their work to senior managers.

The challenge of providing convenient and timely access to resources has become more crucial as libraries are in competition with global search engines for the attention of their end-users (Lynn Silipigni Connaway et al., 2012; Walton, 2015).

This reiterates the importance of throughput and making sure resources are accessible as quickly as possible, which raises the issue of what is 'good enough' and how much time should be spent on enhancing shelf-ready records. It is recognised that front-line staff and the metadata department contribute to the requirements of the library and the wider institution, but that there is a division between them in terms of interactions and perceptions of roles (Antell & Huang, 2008; Weng & Ackerman, 2017). The increasing demand for electronic resources and the ability of users to bypass the library means that all library staff have to work

harder to raise awareness of the services that they offer. Collaboration between departments may be key to this, but this research shows that there is still a lot of work to be carried out in order to improve communication and raise awareness of the work that is undertaken by metadata staff. The literature also points to the dichotomy between the work of front-line staff and cataloguers, but also reiterates that the established differences between customer-facing library staff and those who work back of house are becoming less distinct as virtual collections are considered a service rather than a product. (Antell & Huang, 2008). A suggestion by participants within this thesis is that metadata departments hold training events or open days for colleagues in other areas of the library, in order for them to learn more about what the service provides. A number of participants stated that this had occurred at their institution and that it had been a beneficial way of raising awareness of the work of the department.

Participants within this research highlighted the importance of the role of 'Metadata Matters' (Booth, 2020, 2021) in advocating the importance of metadata. The project has seen NAG working closely with CILIP MDG and SUPC to establish recommended standards for shelf-ready metadata to be included in the procurement tender for the Joint Consortia Framework Agreement (Booth, 2020, 2021). Metadata staff in HE Libraries viewed the project as instrumental in raising awareness amongst suppliers but also improving the metadata that was received for resources purchased through the agreement. 'Metadata Matters' may provide a partial solution to the issue of the quality of metadata being supplied to libraries, but tensions still remain in terms of what metadata is an essential requirement in records and whether with larger scale packages and the instantaneousness of e-books, there is a need to suffice. The next section considers the notion of sufficing in terms of what the implications are for HE libraries and those who supply metadata to them.

6.3 Notions of sufficing

It was recognised by participants at all levels that sufficing was required, but there was not a consensus between the key groups of actors of to what extent and by which means it should be implemented. Sufficing was defined in the data as making compromises on quality assurance of metadata because of time and staffing restrictions, in addition to the scale of e-book packages and the need to make them available immediately. Senior managers in HE libraries took an overall more pragmatic view than metadata staff, that throughput and productivity necessitated as much consideration as discoverability. The rationale for this had several facets including, the size of e-book packages and the immediacy of accessibility to them, the shrinking of library budgets and metadata departments, and changes to the way in which library resources are searched for by end-users. A phrase that was evident in conversations held with library managers for the research was 'good enough', this is reflected in the literature by Svenonius's (2000) principles of description which include user convenience, and sufficiency and necessity. These principles are not without issue as user convenience can differ depending on the actors within the user community and they may have varying terms that are in common usage (Glushko, 2013). For instance, an academic and an undergraduate student searching for the same resource, may use different keywords.

Many of the metadata staff who participated in this research felt that they were undervalued and that senior management did not always support their views around the value of metadata. These tensions underline the sense of seclusion and the counter-cultural approach that metadata staff take within their communities of practice (Brown & Duguid, 1991; Orr, 1996). As highlighted in the literature review, the value of cataloguing is often only measured by collating throughput statistics, but there needs to be shift so that its influence on the search experience of the end-user is assessed (De Fino &

Wang, 2012). This thesis suggests that although metadata staff may feel undervalued, they are not able to pinpoint an obvious way in which the value of the work they do can be measured or communicated. A solution could be that the Value Scorecard applied at the University of York Library (Town & Kyrillidou, 2013; Town, 2015) is adapted to measure the value of metadata departments. There are four aspects to the Value Scorecard these could be implemented in the following ways:

- Virtue – examine the impact of metadata services on the fulfilment of end-user needs, evidence could be collected through focus groups and surveys with these actors (De Fino & Wang, 2012) or through UX methods.
- Momentum – explore practices such as the RDA templates at Consortium A that have been created to become more attuned to the advances in metadata
- Capital – Measure staff capacity and capability to perform in innovative ways
- Relationship – assess the links that metadata staff have with their colleagues in other areas of the library, end-users and other actors such as e-book suppliers and metadata intermediaries

This research highlights that metadata staff also recognised that their role was changing and that traditional methods of cataloguing with book in hand were being implemented less frequently because of changes to the way resources are purchased and delivered. Many participants were keen to emphasise that they identify as metadata staff rather than cataloguers because of the transformation of their role, this is discussed further in Section 6.4. Advances in technology have imposed irrevocable changes to academic libraries that were once seen as housing prestigious physical collections that they were the gatekeepers to, but the advent of electronic resources has seen a rise in users who are independently retrieving material digitally from library collections (Horava, 2010;

Knight, 2017; Way, 2017). This has meant that the rules that librarians have previously kept regarding the custodianship of resources no longer apply to the same extent and academic libraries have to do more to engage users (Appleton, 2020; Knight, 2017). This thesis shows that metadata staff also recognise the need for engaging users by making resources as discoverable and accessible as possible, but they also understand the importance of the rules of cataloguing that are required in order to enable this.

Whilst sufficing was apparent in HE libraries, it was also highlighted amongst participants from e-book suppliers, the data showed that the time needed to produce “gold standard” records was deemed as too long by HE libraries. The majority of HE libraries requested that brief records were initially sent for e-book packages so that they could be discovered and accessed immediately, and for these to be followed up with more complete records once they had been enhanced by cataloguing staff at the suppliers. E-book suppliers recognised that this was a change in stance from HE libraries and they felt the rationale for this was the shift towards digital collections and the instantaneousness and scale of these resources. This fits with the model of the facilitated collection, which is prevalent in HE libraries, it follows a less curatorial approach to collection management and allows end-users access to a wider range of resources (Dempsey, 2017; Dempsey et al., 2014; Levine-Clark, 2014; Way, 2017). The facilitated collection has key elements including shifts towards licensed rather than owned resources and more utilisation of the DDA model (Dempsey, 2017). The findings in this research suggest that some libraries have as much as 80% of their collections in digital format and that 80% of that is subscribed content as opposed to purchased. As e-book collections can be ephemeral, senior managers called into question the time spent enhancing records for resources that are not going to be in collections permanently. E-book packages are often subscribed to on a yearly basis or under a DDA licence, depending on the needs of the end-users, therefore it could be argued that throughput and making such resources available immediately

takes precedence over enhancing records to increase discoverability. Metadata staff in HE libraries recognised that enriching records in packages with thousands of titles was unfeasible but still had concerns about the quality of these records. Methods implemented for performing quality assurance on large numbers of records is discussed further in section 6.4.

Metadata staff in HE libraries felt that cataloguing rules needed to be adhered to but that there was a clear line between correcting errors and enriching records. It was recognised that there is a difference between critical fields such as title, author, ISBN and subjects headings, and then extra fields that are useful such as the 505 (table of contents) and 520 (summary). There was a consensus that there were time limits and the fields that were not essential should not be added, unless they could be copy catalogued from elsewhere, because it would take too long to transcribe them from scratch, and this time could be spent on other tasks. This is reflected in the literature with the template provided for the NAG report on the quality of shelf-ready metadata showing the notes fields as desirable but not essential (Booth, 2020). This could be seen as the basis of where a compromise could be met on sufficing as it shows a clear distinction between essential or fit for purpose, and desirable or gold-standard.

When discussing sufficing and time limits of supplying HE libraries with e-book records, metadata suppliers made a key distinction between brief records and 'gold standard' records. However, it was also recognised by metadata intermediaries that each institution has different requirements depending on the needs of their end-users, therefore questions were raised about whether defining a level of quality that would suit all, was a target that was achievable. An alternative that was suggested within the data

was having fit-for-purpose records and that some progress had been made towards that with the work of NAG and SUPC.

Certain factors were highlighted by this research surrounding accuracy and consistency, that metadata had to be correct and formatted using the appropriate standard in order to provide a baseline for a quality record. Participants from suppliers and HE libraries recognised that these aspects were crucial to discovery, despite this, HE metadata staff reported that these standards were not always being met in the records they received through the Community Zone or directly from suppliers. The literature shows that cataloguers are experiencing inconsistencies in records and that missing key fields was a substantial problem (Booth, 2020; Panchyshyn, 2013). The data highlighted a certain rhetoric in the use of the terms 'good enough' and 'fit-for-purpose' as opposing views between senior managers and metadata staff, a compromise could be automated quality assurance with only records that are flagged up by the LMS as problematic, requiring intervention. Another solution would be that of suppliers having to have the ability to meet a particular standard of metadata and this to be agreed as part of contractual negotiations. However, senior managers in HE libraries stated that metadata is not always the priority when negotiating with suppliers because issues such as price and licensing are considered more important. This research highlights that working collaboratively within consortia and at a national level through organisations such as Jisc and SUPC, does give HE libraries a stronger voice and more negotiating power, so discussions surrounding metadata could take place more at this level.

One element that was seen as essential by participants from e-book suppliers was that of Library of Congress Subject Headings, these were also viewed as key to a fit for purpose record in the NAG report (Booth, 2020). Metadata staff within HE libraries that

took part in this thesis felt it was crucial that subject headings were used to index resources properly so that they could be found. Despite this, subject headings were often missing completely from records received by HE libraries, or they were not to Library of Congress standard. It was highlighted in 4.3.7 that one purchasing consortium was working closely with e-book suppliers to help them rectify this issue. Creating guidance for fit for purpose records was the initial project NAG and SUPC, but this research points to them wanting to take bigger steps to working with Jisc (Cousins, 2019; Jisc, 2019) to incorporate less restrictive metadata licences into the next Joint Consortia Framework Agreement so that records can be more easily shared and workflows de-duplicated. This is explored in more depth in the following section.

6.4 De-duplicating and automating workflows

The restrictive licences on many records mean that even if they have been corrected or enhanced, they cannot then be shared between HE libraries through cooperative catalogues such as Jisc's National Bibliographic Knowledgebase or ExLibris' Community Zone. This means that workflows are being duplicated as several HE Libraries are making changes to a record (Jisc, 2019). This does not fit with the moves towards more automated workflows for everyday cataloguing that both HE library managers and metadata staff in this thesis stipulated is required in order to allow more time to be spent cataloguing resources that are unique to the institution. Within this research, it was found that the work of Plan M to reduce restrictive licences through reaching agreements with suppliers, was something that participants were keen to build on and that this could be step in the next tender for Joint Consortia Framework Agreement which is due for renewal next year. This would mean that more records could be shared once enhanced and workflows would become less duplicated. One consortium within the research also

shared records through the Community Zone and would be able to do this with a larger amount of records if less restrictive licensing was negotiated.

HE library senior managers in this research highlighted the importance of quality assurance by triaging records, which is achieved by programming their LMS to flag up errors in records that did not meet a minimum standard, this meant less intervention was required by metadata staff who would then only need to work on a record if it was highlighted as being incorrect by the LMS. More time could therefore be spent on special collections and making them more discoverable. This thesis shows that HE libraries based within more research orientated universities are moving towards a more 'inside-out' approach to stewardship (Dempsey, 2012; Dempsey et al., 2014; Levine-Clark, 2014) and roles of metadata staff at these institutions are often working on other projects such as special collections, open access and scholarly communications. Within HE libraries at more teaching based universities, automation of the cataloguing process was still important because of the time needed for other projects that were more 'outside-in' focussed such as reading lists.

E-book suppliers who participated in this research also highlighted the importance of automation and how this enabled them to set parameters in their systems to create a basic MARC record that to send to libraries as soon as they purchase an e-book so that is discoverable and accessible immediately. These suppliers did state however, that brief records had to be enhanced by hand to create a 'gold-standard' record that could be delivered to libraries later.

The current automation of workflows and the advances in cataloguing involving Linked Data raised questions about whether human input will always be a necessity in metadata work. Metadata staff at e-book suppliers who participated in this research felt that AI and machine learning projects had demonstrated that more development was needed in order to get the output they produce to a high enough standard. Existing literature suggests that AI tools will assist in making clearer judgements about which metadata should be linked to a particular resource and help to streamline tasks (Fernandez, 2016; Mitzig et al., 2016b). However, there was a notion from metadata librarians in this research, that the more intellectual aspects of cataloguing such as reviewing authorities and subject headings would still need human input.

It was recognised that there is a change to the role of metadata staff with a move away from cataloguing individual resources, to handling large batches of records in bulk. This shift means that metadata staff are required to have a different skill-set than previously needed. The increasing technological advances and updates to library standards signify that there needs to be sufficient focus on the training requirements of the metadata community (Tosaka & Park, 2018). Participants in this research expressed concern about the lack of time and funding available for training once in post and felt that the syllabus for professional library qualifications should be kept aligned to the changes to the role.

Within this research, senior managers at HE libraries and suppliers stated that they had difficulties recruiting metadata staff, because of a shortage of applicants and a skills deficiency. Some participants taught cataloguing on modules at UK universities and saw it as a way of promoting metadata work to future professionals. This practice is reiterated by Urban (2023), who suggests that outreach programmes and internships are a

beneficial way of raising awareness of the opportunities available. Communities of practice can also provide key support for metadata staff in sharing best practice and knowledge in order to contribute to their developmental needs (Wenger et al., 2002). As discussed in Section 6.1, LIS professionals are proficient in collaborating and sharing their experiences and are driven by a natural inclination to advance the sector and to contribute to their profession.

6.5 Conclusion

The aim of this research was to explore the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries and how this relates to changes occurring in this sector. This chapter builds on the research findings from Chapter Four by drawing on the wider literature. This thesis has established that communities of practice for metadata staff differ between the two library consortia that participated in the research and that this is dependent on the amount of facilitation provided and the size of the consortium. It also shows that actors within the bibliographic metadata ecosystem have multi-membership to the communities of practice within this structure and this at times can cause a blurring of boundaries and internal conflict for the participants. This research has also explored the themes around hidden services and how metadata staff often go unnoticed by colleagues and end-users unless there is an issue with the discoverability of resources. Notions of sufficing and whether the idea of 'good enough' is 'good enough' is a suitable approach have been considered in this chapter, with the research showing that this only works if a minimum standard is being met by suppliers and records do not require intervention by library metadata staff. This thesis also ascertained that HE library purchasing consortia are working with metadata suppliers to solve the issue of restrictive

licences, which lead to duplicated workflows. The next chapter focuses on how this thesis has answered the research questions as well as its contribution to existing theory and professional knowledge.

Chapter Seven: Conclusion

This chapter presents the conclusion to the thesis. Firstly, the research questions are considered in terms of to what extent they have been answered by this thesis. Secondly, the research is evaluated using the criteria stipulated by Lincoln & Guba (1985). Within this section, the contribution this study has made to knowledge is discussed and areas of further research are identified.

7.1 Research questions

The aim of this study was to explore the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries and how this relates to changes occurring in this sector. Six research questions were identified in order to accomplish this aim, this section considers how far these questions were answered.

RQ1 - What are the workflows for the quality management of bibliographic metadata of e-books in UK higher education libraries?

This research has shown that within the UK, higher education library consortia do not have centralised cataloguing workflows, but that a certain amount of cooperative cataloguing is occurring through initiatives such as the National Bibliographic Database, OCLC and ExLibris's Community Zone where records can be shared, if licences permit and this assists in de-duplicating workflows. Workflows are also becoming more automated with HE libraries triaging records by programming their LMS to flag up records that do not meet a minimum standard. Only records that are identified as having errors are then corrected by metadata

staff within HE libraries. Some HE libraries that have not set-up their LMS to triage records, check a small sample of records from each e-book package to monitor the quality of the metadata within them.

RQ2 - What are the relationships between key actors in the bibliographic metadata ecosystem?

This thesis recognised that there were in general positive relationships between libraries and suppliers. However, there was a need for more cooperation between the collective human actors within the bibliographic metadata ecosystem. Two key points of tension were identified; restrictive licences for records reducing the ability to share them and the quality of the records being provided to HE libraries by some e-book suppliers.

Restrictive licences led to a duplication of effort by several libraries who were not always able to share corrected records with others in spaces such as the NBK and the Community Zone. Jisc are still exploring ways in which to make the bibliographic metadata ecosystem more open and SUPC are considering whether the issue of restrictive licences can be broached in the next procurement process for the Joint Consortia Framework Agreement.

The issue of poor quality records raises questions about the quality management procedures of some suppliers. This research has established that suppliers who need guidance and support regarding the minimum standard of metadata required by libraries, were able to collaborate with others within the supply chain to obtain this.

RQ3 - How is the value of cataloguing regarded by key actors and how does this relate to their perceptions of their role?

A tension has been highlighted by this research between senior managers and metadata staff regarding the value of cataloguing. This thesis has established that both parties recognise there needs to be a balance between throughput and fullness and description, but there was not always agreement on how this balance should be met.

Perfectionism was viewed as a trait of metadata staff who saw it as vital to their role, whereas senior managers gave the impression that it could hinder productivity. This research has also emphasised that the work of metadata staff often goes unnoticed because they are not customer facing and their work is to make the access to resources as frictionless as possible. It has also drawn attention to concerns that cataloguing is a niche area that is not always understood and is at times undervalued and could prove to be critical when senior managers make decisions about the future of the department.

RQ4 - How does the reshaping of higher education library roles and collections affect the workflows involved in the quality management of e-book bibliographic metadata?

This research links the automation of workflows to the requirement of metadata staff to focus on other projects such as special collections and material that is unique to the institution. This is also underlined by existing theory on 'inside-out' collections and the collections grid (Dempsey et al., 2014). The stewardship of collections has also shifted from away from cataloguing individual items to manipulating metadata at scale, which means the role of metadata staff has changed. This thesis has shown that metadata staff are concerned that

traditional cataloguing could become marginalised by other tasks such as Open Access and Scholarly Communications.

RQ5 - In what ways are metadata staff involved in communities of practice and what are the structures and norms of these communities?

This thesis found differences in the communities of practice for metadata staff at the two consortia who participated. The key factors that affected this are the facilitation of these communities and the size of the consortium. Metadata staff within the larger consortium had started a separate community of practice because of the lack of support available to host this within the consortium. The metadata staff within Consortium A had a recognised group with set aims and clear channels of communication for sharing experiences and good practice. However, this research also explored how a community of practice being more institutionalised may influence how knowledge is shared within in it, by members possibly relying on more canonical knowledge.

Ideas surrounding flexible working arrangements for metadata staff introduced as a result of the Covid-19 pandemic were examined in this research and how modern working conditions may put constraints on how members of a community of practice connect with each other.

Participants within this research were members of multiple communities of practice and could therefore be dealing with tensions that arise from this and having to balance relationships that occur in different professional settings and boundaries may be blurred.

RQ6 - What impact has the Covid-19 pandemic had on the quality management of e-book metadata and which of these effects could be permanent?

This thesis shows that there are two main elements that have been brought about by the pandemic; an acceleration of the digital shift, and more metadata staff working from home. The former means there is more of a focus on quality metadata to make sure that these e-books are discoverable as they are in higher demand and that more metadata staff have been trained to catalogue e-books because of the volume of them that have needed processing. The latter raises questions about whether this contributes to metadata departments being a hidden service, this research discusses the idea that arranging ad-hoc meetings online is easier than organising to meet in-person but that working from home meant that informal conversations with colleagues were less likely to occur.

7.2 Trustworthiness of the Research

As discussed in Chapter Three, to gauge the trustworthiness of this research the criteria of Lincoln & Guba (1985) was applied and the section is defined by this framework for assessing constructivist inquiries. It is therefore structured around the key terms; credibility, dependability, transferability and confirmability.

7.2.1 Credibility

The research demonstrates an in-depth awareness and understanding of the field, through collecting data over a prolonged period, with 31 interviews being undertaken with metadata staff and senior managers from two higher education library consortia and a number of the e-book aggregators and metadata intermediaries who supply them. Conducting thematic

analysis and memo-writing concurrently to the interviews helped to build this strong familiarity with the field, but also this added to the complexity of the interpretations made by participants as it allowed the researcher to with adapt interview guides in response to the developing themes. There are robust links between the data collected, the themes that developed and the findings and analysis that followed.

7.2.2 Transferability

As discussed in Section 3.7.2 transferability is defined by the “thick description” used to present a clear picture of the situation in which data is collected and finding are made and whether the report is detailed enough for potential readers to evaluate the feasibility and applicability of transferring the research to their own settings.

Protracted engagement in the field during this research led to rich comprehension of the situation and as discussed in Chapter Three, memo-writing occurred throughout the study to aid in extracting meaning and connections within the data. Parts of these memos and citations from participants were used to form the findings chapters, providing a robust description and analysis of the different key elements within the situation that were motivating participants.

7.2.3 Dependability

The aims of the thesis and the initial literature review were carefully considered when constructing the research objectives and questions for this thesis. Preliminary interview guides were created for each participant group, with all questions in each guide being connected with a specific research question (Appendix H). The supervision team were consulted throughout the study and their regarding several aspects of the study was obtained.

7.2.4 Confirmability

A number of measures were taken during this research to ensure that an audit trail of the methods applied can be followed. These include; compiling literature search guides, recording any changes to the research questions, creating and developing interview guides, memo-writing, MindMaps and a codebook of developing themes, and generating maps during situational analysis

7.3 Contribution to practice

The themes set out in this research offer analyses that those within the bibliographic metadata ecosystem can apply in their professional practice, particularly regarding understanding the different viewpoints of 'good enough' and 'fit for purpose' and how to reach a compromise concerning this. Having a set template as suggested by the NAG and SUPC (Booth, 2020), could help guide suppliers to the minimum standard that they should be providing, and using this template to programme LMS to triage records could help

automate the quality assurance process in HE libraries. Metadata staff could then apply their skills elsewhere such as in open access, special collections or scholarly communications.

7.4 Contribution to knowledge

In terms of contribution to knowledge, this research highlights a need for metadata staff to demonstrate the value of the work they do and that this could feasibly be done by utilising the Value Scorecard (Town & Kyrillidou, 2013; Town, 2015). The theme of professional identities and communities practice highlighted the differences between HE library consortia, showing that size and facilitation play a key role in the existence of communities of practice in this setting.

The study has highlighted the need for further research into the experience of the end-user when searching for e-books and the process they deploy for this, as Dempsey (2016) suggests as libraries move away from owned print collections to more digital facilitated collections, this means the ways in which end-users are exploring and accessing resources is also changing. Another area that needs further research is the communities of practice that exist within different HE library consortia within the UK, as this study was limited to the study of two of these consortia.

7.5 Conclusion

This chapter highlights the extent to which the six research questions were answered in order to fulfil the aim of this study. The thesis is then evaluated using the categories set out by Lincoln & Guba (1985). In terms of credibility, there was prolonged engagement in the

field and the themes that emerged are rooted firmly in the data collected and analysed from the research conversations. The research set out to make both practical and theoretical contributions to LIS, the practical aspect has been achieved through finding that there is a need for metadata staff to demonstrate the value of their work and suggesting a way in which this could be conducted. The theoretical aspect has been attained through recognising the differences in communities of practice depending on the consortium that their members belong to, but it is acknowledged that this has limitations and further research to encompass all UK HE library consortia is suggested.

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Appendices

Appendix A: Initial literature search plan

An initial search will be carried out using the following databases: StarPlus, Library and Information Science Abstracts, ProQuest Library Science Database, EBSCO, SCOPUS, Emerald, Google Scholar

Searches will be limited to peer reviewed and literature published in the last ten years.

In addition to this relevant books will be consulted, citations and references will be checked for relevant literature and resources found serendipitously will be considered.

Search One

	Search Terms		Alternative Search Terms
	metadata	OR	'bibliographic information' "resource description"
AND	ebooks	OR	e-books, e-resources
AND	'quality control'	OR	'quality management' 'quality assurance'

Search Two

	Search Terms		Alternative Search Terms
	'library consortia'	OR	
AND	'bibliographic records'	OR	'MARC records'
AND	'United Kingdom'	OR	British

Search Three

	Search Terms		Alternative Search Terms
	'quality management'	OR	
AND	'academic libraries'	OR	'university libraries'
AND	catalog*	OR	'technical services'

Search Four

	Search Terms		Alternative Search Terms
	'electronic data interchange'	OR	EDI
		NOT	'equality, diversity and inclusion'
AND	'academic libraries'	OR	'university libraries'
AND	Vendors	OR	publishers, suppliers

Search Five

	Search Terms		Alternative Search Terms
	'academic libraries'	OR	'university libraries'
AND	'vendor supplied records'	OR	'shelf ready books'
AND	feedback	OR	monitoring, guidance

Search Six

	Search Terms		Alternative Search Terms
	BIBFRAME	OR	'linked data'
AND	'academic libraries'	OR	'university libraries'

Search Seven

	Search Terms		Alternative Search Terms
	vendors	OR	publishers, suppliers
AND	ebooks	OR	e-books, e-resources
AND	perspective	OR	opinion, viewpoint
AND	'quality control'	OR	'quality management', 'quality assurance'

Search Eight

	Search Terms		Alternative Search Terms
TI =	value	OR	
AND	catalog*		'technical services'
AND	'academic libraries'	OR	'university libraries'

Search Nine

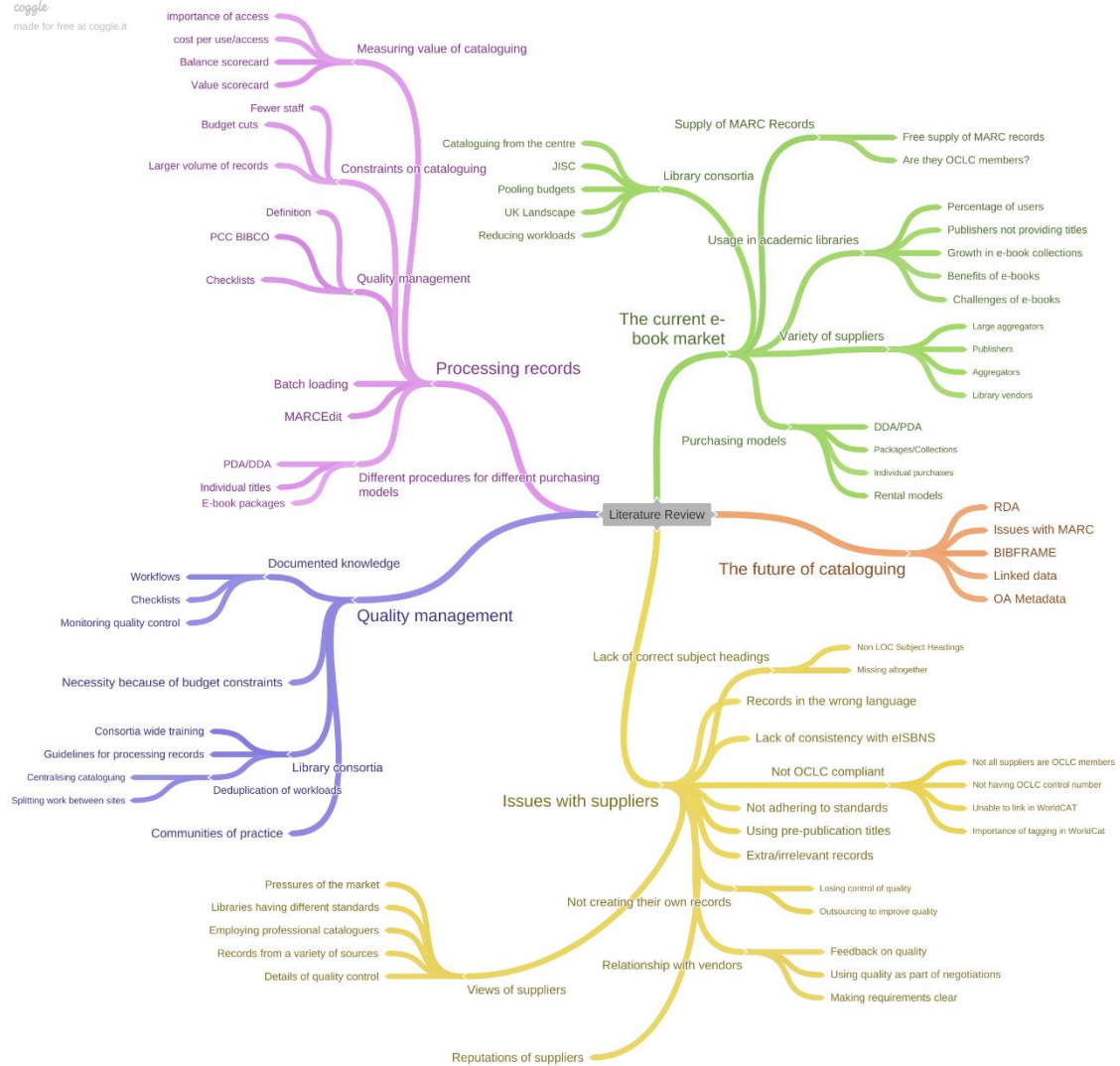
	Search Terms		Alternative Search Terms
	'academic libraries'	OR	'university libraries'
AND	collection	OR	
AND	trends	OR	

Search Ten

	Search Terms		Alternative Search Terms
	'communities of practice'	OR	
AND	catalog*	OR	'technical services'
AND	'academic libraries'	OR	'university libraries'

Appendix B: MindMap of Literature Review

coggle
made for free at coggle.it



Appendix C: Interview Guide – HE Senior Managers

Tell me a little about what you do in your role?

What can you tell me about how you came to be in this role?

What would be your definition of quality management?

What do you feel are the costs, if any, of having to correct or enrich shelf-ready records?

How much would you say that there is a balance between efficiency and cost-effectiveness with the need to keep perfect records?

What can you tell me about collaborative cataloguing processes within the consortium that your library is part of?

In what ways, if any, would you say that being part of a consortium influences your role?

What can you tell me about the connections you have with other library professionals?

In what way, if any, do these connections shape your work?

What motivates you to collaborate with others within the library community?

In what ways do you share ideas of practice with other library professionals?

What can you tell me about your attitudes towards the value of cataloguing?

How, if at all, have your attitudes towards the value of cataloguing changed during your career?

What events, if any, have impacted on your attitudes towards the value of cataloguing?

How much do you feel that staff within the cataloguing department share your attitudes towards the value of cataloguing?

How important is the work of the cataloguing department in terms of customer satisfaction?

In what ways do you feel that changes to library collections have influenced decisions made regarding the cataloguing department?

In what ways have library budgets influenced the work of the cataloguing department?

Can you tell me your feelings on the scale of e-book packages and how this impacts on cataloguing?

What impact, if any, does interoperability of products have on discoverability of e-books?

How do you think the changes to library collections have changed the role of the library?

What impact do you think the commercialisation of universities has had on the role of the library in terms of access to resources?

What can you tell me about how the pandemic has affected the purchasing of e-books?

How has this impacted on the quality management of records?

What aspects of the changes brought about by the pandemic do you feel could be permanent?

Is there something that you might not have thought about before that occurred to you during this interview?

Is there anything else you think I should know, to have a better understanding?

Appendix D: Interview Guide – HE Metadata Staff

Tell me a little about what you do in your role?

What can you tell me about how you came to be in this role?

What would be your definition of quality management?

What can you tell me about the quality control that you perform on the shelf ready metadata that you receive for e-books?

What are the reasons for you wanting to perform quality control?

What do you feel are the costs, if any, of having to correct or enrich shelf-ready records?

How much would you say that there is a balance between efficiency and cost-effectiveness with the need to keep perfect records?

What can you tell me about collaborative cataloguing processes within the consortium that your library is part of?

In what ways, if any, would you say that being part of a consortium influences your role?

What can you tell me about the connections you have with other cataloguing professionals?

In what way, if any, do these connections shape your work?

What motivates you to collaborate with others within the cataloguing community?

In what ways do you share ideas of practice with other cataloguing professionals?

How would you describe your relationship with metadata suppliers?

How easy is it to report errors back to suppliers?

In what ways do you feel that you could work with metadata suppliers to improve shelf-ready records?

How would you describe a quality record?

How much would you say that your idea of a quality record is aligned with suppliers' notion of a quality record?

What can you tell me about negotiations with suppliers regarding the quality of records?

What can you tell me about your attitudes towards the value of cataloguing?

How, if at all, have your attitudes towards the value of cataloguing changed during your career?

What events, if any, have impacted on your attitudes towards the value of cataloguing?

How much do you feel that senior management staff within the library you work in share your attitudes towards the value of cataloguing?

How do you feel that attitudes of other library staff towards the value of cataloguing impact on your role?

In what ways do you feel that changes to library collections have influenced your role in cataloguing?

Can you tell me your feelings on the scale of e-book packages and how this impacts on your role?

How do you think the changes to library collections have changed the role of the library?

What can you tell me about how the pandemic has affected the purchasing of e-books?

How has this impacted on the quality management of records?

What aspects of the changes brought about by the pandemic do you feel could be permanent?

Is there something that you might not have thought about before that occurred to you during this interview?

Is there anything else you think I should know, to have a better understanding?

Appendix E: Interview Guide – Suppliers

Tell me a little about what you do in your role?

What can you tell me about how you came to be in this role?

What would be your definition of quality management?

What can you tell me about the quality control that you perform on the shelf-ready metadata that you supply?

What are your feelings on the importance of quality control?

How much would you say that there is a balance between efficiency and cost-effectiveness with the need to keep perfect records?

What can you tell me about the process of converting the metadata into the MARC format?

What can you tell me about the use of Library of Congress Subject Headings?

Overall, how would you describe your relationship with academic libraries?

In what ways do you feel that you could work with libraries to improve bibliographic metadata?

How would you describe a quality record?

How much would you say that your idea of a quality record is aligned with libraries' notion of a quality record?

What can you tell me about negotiations with academic libraries regarding the quality of records?

What can you tell me about the connections you have with other LIS professionals?

In what way, if any, do these connections shape your work?

What motivates you to collaborate with others within the cataloguing community?

In what ways do you share ideas of practice with other cataloguing professionals?

What can you tell me about your attitudes towards the value of cataloguing?

How, if at all, have your attitudes towards the value of cataloguing changed during your career?

What events, if any, have impacted on your attitudes towards the value of cataloguing?

How much do you feel that staff within academic libraries share your attitudes towards the value of cataloguing?

Is there something that you might not have thought about before that occurred to you during this interview?

Is there anything else you think I should know, to have a better understanding?

Appendix F: Codebook

Being aware of the NAG and SUPC standards

- seeing the NAG standard as a basis for a quality record

Creating RDA Templates

Being good for unusual types of material

Having difficulty defining what a perfect record is

Having quality issues in records

- Receiving incorrect data from providers

Standardising records

Using LCSH

Assessing quality in the Community Zone

- Being frustrated that it's a bit of a wild west

Wasting time and money if cataloguing's done poorly to scale

Recognising the need for correct and accurate information/Recognising the need for accuracy and consistency

Enhancing metadata that isn't good enough/Having to correct records

Costing staff time to correct and find records

Adding more subject headings to records

Describing a quality record

Shelf-ready records improving

Detailing what's needed in a record

Standardising records

Using the same standards

Having metadata that's fit for purpose

Having minimum requirements

Needing metadata to be correct

Records missing basic fields

Some suppliers providing poor records

- Working to improve them

Buying more e-books at scale

Considering challenge of cost of e-books

- Getting funding

Increasing e-book purchasing during the pandemic

- Receiving extra funding for e-resources

Pandemic increasing the selling and buying of e-books

- Increase in e-book sales being a continuing trend

Shrinking library budgets

- doing more with less

Considering availability of e-books

Still having demand for print

Accelerating the change to digital first

Perceiving libraries as buildings with books

Shifting perception to digital

Engaging more with digital

Not just buying things that are in packages

Focusing on special collections/Promoting what's unique in a collection/Focusing on the value-added

- thinking there is a role of detailed cataloguing for unique collections

Growing digital collections

Pandemic increasing focus on e-textbooks

Putting print ordering on hold

Certain subjects being better in print than e-book format

Demand for e-resources increasing during the pandemic

Being tied to reading lists

- Not just buying things that are in packages

Considering the NSS tables

Having a digital first policy

Students being consumers

Not having specific special collections staff

Thinking EBOOKSOS has raised some valid points

Considering the ephemeral nature of eBooks

Students not using Discovery Systems as much as Librarians think

Students using knowledgebase and reading lists

Cataloguers enhancing records by hand

Having shelf-ready records

- this taking away tasks from cataloguers

Identifying cataloguing tasks

Identifying licensing as an issue/Recognising the issues with licensing

- licensing being complex

- trying to reduce duplication of effort

Receiving metadata files from providers

Using the Community Zone

- Recognising impact of editing Community Zone records

Having automation to create basic MARC records

Libraries wanting records at same time as e-books

Briefing acquisitions staff to look for issues in records

Receiving data in a variety of ways

Downloading records from OCLC or NBK

Not dealing with e-book packages

- dealing with individual eBooks and packages differently

Hoping the NBK will make it easier to share

thinking the LMS would do some quality management

Thinking NBK is the better option

- Not wanting to replicate the work of Disc

Being in favour of the NBK

checking a sample of records within a package

checking records manually

having a number of validation checks

more staff cataloguing e-books

not having time to catalogue large packages

not receiving shelf ready metadata

Copying CZ records to the catalogue to edit

- feeling bad for doing this

Libraries not being aware of the cost of metadata

Working from home more after pandemic

Having a strong relationship with academic libraries

- Understanding customer needs

Maintaining good relationships with suppliers/Having a good relationship with suppliers

Making customers' lives more efficient

Suppliers' practices being old-fashioned

Watching the needs of libraries evolving

Welcoming feedback from libraries

Having a background in education

Having a willingness from libraries to suggest fixes

Negotiating with suppliers

Reporting issues to suppliers

- suppliers fixing records
- time lag being an issue on getting issues fixed

Metadata being a big part of discussions

Resolving licensing issues

- allowing more sharing of records

Correcting metadata instead of reporting it

- being quicker

Dawson's going out of business

- metadata falling under the radar

Not dealing directly with suppliers

Lobbying suppliers

Sales team at suppliers not knowing enough about metadata

Not having an overview of the whole e-book ecosystem

- ecosystem having various players

Viewing the ecosystem as fragmented

Needing records that are sharable and reusable

Cataloguing teams being involved with cataloguing organisations

Collaborating

Getting your voice heard

Moving to a new LMS

- Allowing more collaboration

Sharing records nationally and internationally

Being on several NISO Committees

Working with National Organisations

Sharing experiences of suppliers

Working nationally to build relationships

Working with international bodies

Learning a lot from colleagues

Meeting regularly

- Sharing experiences

Not having connections outside the consortium

Sharing good practice

Being a small institution

Creating an online community because of coved

Knowing you're not alone

Linking nationally

Dealing with similar issues

Naturally collaborating
Networking
Sharing cataloguing metadata
Sharing good practice
Sharing knowledge and training
Using Yammer to communicate
Working collectively to get better deals
- affecting change through service level agreements
Working collectively with Disc
Being on several committees
Being stronger as a consortium
Being involved with MADSIG
Getting advice from SUPC
Lacing appetite for BDS deal

Convincing other library colleagues of the value of cataloguing
Having a small team
- Feeling isolated
Being a jack of all trades
Having previous cataloguing experience
Importance of records
Not being sure if other people value cataloguing
Recognising need for discoverability
- recognising that quality of metadata affects future purchasing decisions
- needing good quality records
Previously not appreciating the value of cataloguing/Previously not knowing a lot about cataloguing
Frontline staff not recognising value
Customers needing to be able to find e-books
Recognising need for provision of information
Recognising the value of cataloguing for a users' point of view
Being a rare breed
Shifting cataloguing from subject librarians
Strongly recognising the value of cataloguing
Increased focus on metadata because of the pandemic
Providing records that are good enough but not necessarily perfect
Being quite anal when it comes to cataloguing
Going unnoticed
Striking a balance of what is good enough
- knowing the limits
Viewing cataloguing as important
Cataloguing aiding discovery
Viewing perfectionism as a characteristic of cataloguers
Learning new skills
Not having the resources for perfectionism
Seeing the importance of throughput
Seeing a difference between perfection and what does the job
Considering whether AI will replace cataloguing
Thinking human input will always be necessary
Needing Linked Data

Being curious about linked data
Role of cataloguing changing
Questioning the future of MARC
Recognising the difficulty of recruiting
Requiring better training for cataloguers
Teaching cataloguing to librarianship students
Working in scholarly comms

Striving for Quality

Changing Perceptions of Library collections

Assessing workflows

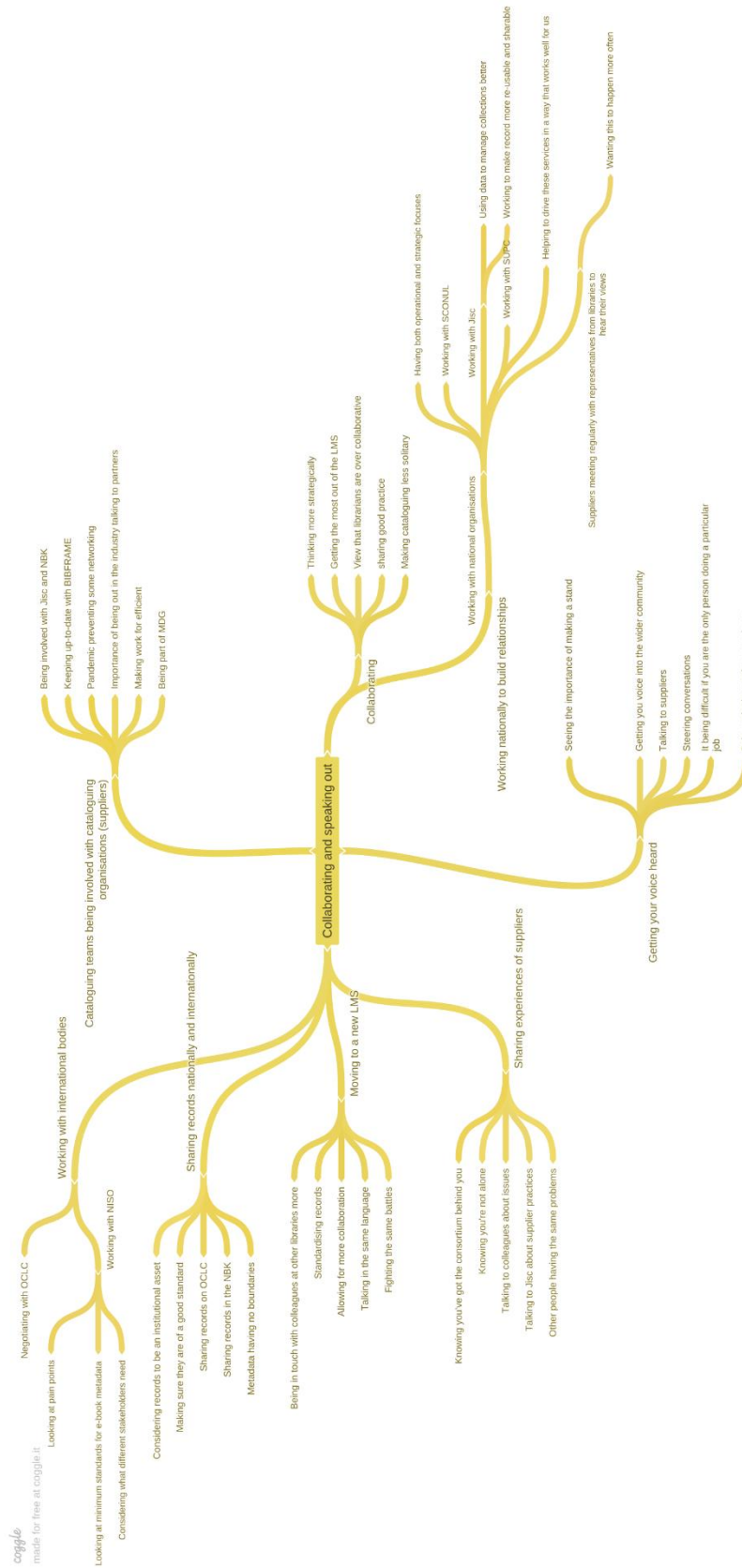
Maintaining relationships with suppliers

Collaborating and speaking out

Advocating the value of cataloguing

Considering the future of cataloguing

Appendix G: MindMap of Collaborating and Speaking Out Theme



Appendix H: Interview Guide with linking research questions – HE Metadata Staff

Research Question	Interview Question	Type of Question
RQ1, RQ2	Tell me a little about what you do in your role?	Open
RQ1	What can you tell me about how you came to be in this role?	Open
RQ1, RQ2	What would be your definition of quality management?	Open
RQ1	What can you tell me about the quality management that you perform on the shelf ready metadata that you receive for e-books?	Probing
RQ1, RQ2, RQ3	What are the reasons for you wanting to perform quality management?	Follow-up
RQ1, RQ2, RQ3	What do you feel are the costs, if any, of having to correct or enrich shelf-ready records?	Probing
RQ1, RQ3	How much would you say that there is a balance between efficiency and cost-effectiveness with the need to keep perfect records?	Probing
RQ1, RQ5	What can you tell me about collaborative cataloguing processes within the consortium that your library is part of?	Open
RQ1, RQ4, RQ5	In what ways, if any, would you say that being part of a consortium influences your role?	Follow-up
RQ5	What can you tell me about the connections you have with other cataloguing professionals?	Open
RQ5	In what way, if any, do these connections shape your work?	Follow-up

RQ5	What motivates you to collaborate with others within the cataloguing community?	Open
RQ5	In what ways do you share ideas of practice with other cataloguing professionals?	Open
RQ1, RQ2, RQ5	How would you describe your relationship with metadata suppliers?	Open
RQ1, RQ2	How easy is it to report errors back to suppliers?	Follow-up
RQ1, RQ2, RQ5	In what ways do you feel that you could work with metadata suppliers to improve shelf-ready records?	Open
RQ2, RQ3	How would you describe a quality record?	Open
RQ2, RQ3	How much would you say that your idea of a quality record is aligned with suppliers' notion of a quality record?	Follow-up
RQ2	What can you tell me about negotiations with suppliers regarding the quality of records?	Probing
RQ3	What can you tell me about your attitudes towards the value of cataloguing?	Probing
RQ3, RQ4	How, if at all, have your attitudes towards the value of cataloguing changed during your career?	Follow-up
RQ3, RQ4	What events, if any, have impacted on your attitudes towards the value of cataloguing?	Follow-up

RQ3, RQ4	How much do you feel that senior management staff within the library you work in share your attitudes towards the value of cataloguing?	Probing
RQ3, RQ4	How do you feel that attitudes of other library staff towards the value of cataloguing impact on your role?	Probing
RQ4, RQ6	In what ways do you feel that changes to library collections have influenced your role in cataloguing?	Open
RQ4	Can you tell me your feelings on the scale of e-book packages and how this impacts on your role?	Probing
RQ4, RQ6	How do you think the changes to library collections have changed the role of the library?	Open
RQ4, RQ6	What can you tell me about how the pandemic has affected the purchasing of e-books?	Open
RQ1, RQ4, RQ6	How has this impacted on the quality management of records?	Follow-up
RQ4, RQ6	What aspects of the changes brought about by the pandemic do you feel could be permanent?	Follow-up
	Is there something that you might not have thought about before that occurred to you during this interview?	Closing question
	Is there anything else you think I should know, to have a better understanding?	Closing question

Appendix I: Ethics Approval Letter



Downloaded: 14/02/2024
Approved: 05/05/2021

Victoria Edwards
Registration number: 190263401
Information School [a.k.a iSchool]
Programme: INFR33 Information Studies

Dear Victoria

PROJECT TITLE: An exploration of the key influences, attitudes and processes surrounding the quality management of the bibliographic metadata of e-books in UK higher education libraries
APPLICATION: Reference Number 036726

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 05/05/2021 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 036726 (form submission date: 28/04/2021); (expected project end date: 30/11/2022).
- Participant information sheet 1087935 version 3 (28/04/2021).
- Participant consent form 1087936 version 3 (28/04/2021).

If during the course of the project you need to [deviate significantly from the above-approved documentation](#) please inform me since written approval will be required.

Your responsibilities in delivering this research project are set out at the end of this letter.

Yours sincerely

Paul Reilly
Ethics Administrator
Information School [a.k.a iSchool]

Please note the following responsibilities of the researcher in delivering the research project:

- The project must abide by the University's Research Ethics Policy: <https://www.sheffield.ac.uk/research-services/ethics-integrity/policy>
- The project must abide by the University's Good Research & Innovation Practices Policy: <https://www.sheffield.ac.uk/policy/fs/1.671066/Title/GRIPPolicy.pdf>
- The researcher must inform their supervisor (in the case of a student) or Ethics Administrator (in the case of a member of staff) of any significant changes to the project or the approved documentation.
- The researcher must comply with the requirements of the law and relevant guidelines relating to security and confidentiality of personal data.
- The researcher is responsible for effectively managing the data collected both during and after the end of the project in line with best practice, and any relevant legislative, regulatory or contractual requirements.

Appendix J: Information and Consent Form

The University of Sheffield Information School	An exploration of the key influences, attitudes and processes surrounding the quality management of the bibliographic metadata of e-books in UK higher education libraries
-----------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Researchers

Researcher - Victoria Edwards – veedwards2@sheffield.ac.uk

Supervisor - Dr Peter Stordy – peter.stordy@sheffield.ac.uk

Supervisor - Professor Stephen Pinfield – s.pinfield@sheffield.ac.uk

Purpose of the research

The purpose of the research is to explore both library and e-book supplier workflows surrounding the quality management of the bibliographic metadata of e-books and the relationships between these two parties. It also aims to investigate how the quality management of e-book metadata relates to the wider issue of supply chain management. The research will also examine attitudes towards the value of cataloguing and how this relates to perceptions of roles within the changing environment of the academic library sector.

Who will be participating?

The researcher will be inviting key library staff from UK higher education libraries and key staff from publishers, e-book and metadata suppliers to participate in the research.

What will you be asked to do?

The researcher will ask you to participate in an interview lasting approximately 45-60 minutes about the quality management of the bibliographic metadata of e-books. This will be conducted remotely via Skype or Google Meet and will be recorded as video.

Prior to or during the interview, the researcher may ask you to provide documentation relating to the processes surrounding the quality management of the bibliographic metadata for e-books within the organisation that you work for.

What are the potential risks of participating?

The researcher may be exploring the work and processes of participants and there may be instances where participants have different views to other professionals. This will be taken into account during data collection and all questions will be structured around the research aim, questions and objectives with any challenging discussions being handled carefully. The name and place of work of all participants will be anonymised in the writing up of the research.

It is recognised that the use of pseudonyms in the writing up of the thesis may not be sufficient and that participants could indirectly be identified through quotes used in the results chapters. This may necessitate not using certain quotes that could lead to the jigsaw identification of an individual or an organisation.

What data will I collect?

The interviews will be recorded as video, the audio from these will then be transcribed in order for them to be analysed.

The documentation will be collected as PDF or Word documents.

What will I do with the data?

The researcher will be analysing the data for inclusion in their PhD thesis and any journal publications or conference presentations, which stem from this.

The data will be stored on the Information School's research data drive, which is securely password protected through double authentication and can be accessed only by the researcher, their supervisors and ICT staff operating the facility. The researcher will also store working data on a departmental password protected laptop.

All working data and the video recordings will be destroyed 5 years after the successful completion of my PhD Viva.

A dataset of the transcripts from the interviews will be archived in ORDA, the University of Sheffield repository, subject to anonymisation and gaining permission and consent.

The transcripts may contain phrases that could enable participants to be identified. Participants will also be given the opportunity to remove particular text from the transcripts; they will be emailed the transcripts to check them prior to them being archived in ORDA.

Will your participation be confidential?

For the participants of the interviews, in the writing up of the findings, the researcher will give you a pseudonym and not identify the organisation that you work for.

It is recognised that the use of pseudonyms in the writing up of the thesis may not be sufficient and that participants could indirectly be identified through quotes used in the results chapters. This may

necessitate not using certain quotes that could lead to the jigsaw identification of an individual or an organisation.

Any information on the documentation that relates to your organisation or the people who work there will be redacted.

What will happen to the results of the research project?

The results of this study will be included in my PhD thesis, which will be publicly available via White Rose eTheses Online (<http://etheses.whiterose.ac.uk/>).

What is the legal basis for processing your personal data?

The University of Sheffield will act as the Data Controller for this study. This means that the University is responsible for looking after your information and using it properly. In order to collect and use your personal information as part of this research project, we must have a basis in law to do so. The basis that we are using is that the research is 'a task in the public interest'.

Declaration of consent

- I confirm that I have read and understand the description of the research project, and that I have had an opportunity to ask questions about the project.
- I understand that my participation is voluntary and that I am free to withdraw at any time until I have provided feedback on the transcript of the interview, without any negative consequences.
- I understand that if I withdraw I can request for the data I have already provided to be deleted, however this might not be possible if the data has already been anonymised or findings published.
- I understand that I may decline to answer any particular question or questions or decline to provide any documentation requested.
- I understand that my responses will be kept strictly confidential, that my name or identity will not be linked to any research materials, and that I will not be identified or identifiable in any report or reports that result from the research, unless I have agreed otherwise.
- I understand that I can report any concerns about safeguarding via the Research Misconduct Toolkit: [Research Misconduct Toolkit - Research Misconduct - Academic Staff Information - Policies, Procedures & Related Guidance - HR - The University of Sheffield](#)
- I give permission for all the research team members to have access to my responses.
- I agree to take part in the research project as described above.

Participant Name (Please print)

Participant Signature

Researcher Name (Please print)

Researcher Signature

Date

Note: Further information, including details about how and why the University processes your personal information, how we keep your information secure, and your legal rights (including how to complain if you feel that your personal information has not been handled correctly), can be found in the University's Privacy Notice <https://www.sheffield.ac.uk/govern/data-protection/privacy/general>.

If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, please contact Dr Paul Reilly, Research Ethics Coordinator, Information School, The University of Sheffield (ischool_ethics@sheffield.ac.uk).

Appendix K: Data Management Plan

Plan Overview

A Data Management Plan created using DMPonline

Title: An exploration of the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries.

Creator: Victoria Edwards

Principal Investigator: Victoria Edwards

Data Manager: Victoria Edwards

Affiliation: The University of Sheffield

Template: The University of Sheffield Postgraduate Research DMP

Project abstract:

The proliferation of e-books in academic libraries has led to significant changes in the way that they are catalogued. As e-books are often purchased in large collections, batch loading bibliographic records into Library Management Systems is the most feasible method for making them accessible. The quality of the bibliographic metadata in the records provided is often varied, this can impact their discoverability. This research aims to investigate how this quality is monitored by UK academic libraries and e-book vendors, with a particular focus on the workflows implemented for processing records. The relationships between libraries and e-book vendors will also be examined.

ID: 52509

Start date: 01-06-2021

End date: 23-02-2024

Last modified: 14-02-2024

An exploration of the key influences, attitudes and processes involving the quality management of the bibliographic metadata of e-books in UK higher education libraries.

Defining your data

Data will be collected using the following methods:

Qualitative data will be created through conducting in-depth interviews with key actors in the bibliographic metadata ecosystem. It is anticipated that around 30 interviews will be conducted, each lasting approximately between 30 and 60 minutes. This data will be collected between 1/6/21 and 30/6/22

The data created will not exceed 500GB

The data will be in the following formats:

Interview recordings - .wav, .mp3, .mp4

Interview transcripts - .txt, .nvp

Looking after your data

All data will be named according to the University of Queensland's Division of Technology, Information and Learning Support (TILS) File Naming Convention (<https://www.library.qut.edu.au/about/management/documents/QUTTILSDocNamingConvention.pdf>). In addition to this, a readme.txt file will be kept with the data to explain the collection methods used and any abbreviations in the naming protocol.

All data will be stored in the following locations:

The internal hard drive of a departmental laptop that is encrypted and password protected.

UoS X Drive which is encrypted and only accessible through MUSE authentication

It will be backed up at the end of each working day, with the definitive version of the data being stored in the X Drive.

If more storage space is required, this will be requested from UoS IT Services.

Archiving your data

No data from the research will be archived beyond the end of the project.

The working data will be deleted once the final thesis has been deposited in WREO, the White Rose thesis repository.

Sharing your data

The personal data that will be collected will be names, job titles and places of work. As stipulated by GDPR, this information will be removed from the datasets before they are archived in order to preserve anonymity and uphold the privacy of all participants. Data will be collected once UoS Ethic Approval has been granted.

Implementing your plan

The principal investigator is responsible for making sure this plan is followed. The plan will be reviewed and updated every six months.