User experience of an institutional repository: A study of OpenUCT with a focus on postgraduate students

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people, has been attributed and has been cited and referenced.

Signature: Signed by candidate Date: 11 August 2023

Dedications

This is dedicated to my parents Mrs. Nokukhanya Gloria and the late Mr. Comfort S'khungo Skenjana and Mr. Lindelani Philiso Gogela, not forgetting my late grandmother Mrs. Zelpha Kalimashe whom I fondly called Duna. Finally, my nieces Thuliswa and Khanya Skenjana-Mtima and my nephew Uyathandwa Skenjana-Mtima, I want you to know that it is possible no matter the circumstances.

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List of Acronyms & Abbreviations

ETDs - Electronic Theses & Dissertations

GSB - Graduate School of Business

ICT - Information Communication Technology

IR - Institutional Repository

OA - Open Access

OAI -PMH- Open Archives Initiative Protocol for Metadata Harvesting

OER - Open Educational Resources

OP - Other Publications

PG – Postgraduate

RO - Research Outputs

T/D - Theses/Dissertations,

UCT - University of Cape Town

UP - University of Pretoria

UI – User Interface

URL - Uniform Resource Locator

UX - User Experience

UXD – User Experience Design

Abstract

An institutional repository (IR) plays a significant role in meeting users' information needs by providing access to the institution's intellectual outputs. The literature revealed that although studies on IRs have been conducted there is limited research on their user experience (UX). UX is gaining significant traction in academic libraries as it is becoming more useful to assess the services of the library from a user-centred perspective. The study investigated the user experience of OpenUCT from the postgraduate (PG) students' perspective. The study determined the extent to which the students are aware of the IR, their expectations of, and attitudes towards the IR, the utilisation of the IR and usability challenges in relation to its use.

The study used a qualitative research method to achieve the research objective. Semi-structured interviews and structured observations were used to gather data from twelve Masters students at the Graduate School of Business (GSB) department in the Faculty of Commerce at the University of Cape Town. A group of students whose course has a dissertation element were selected for interviews and observation. The participants included students who were in the beginning, middle and final stages of their dissertation. Data was also collected through an interview with a key informant at the UCT Library department.

The findings revealed that half of the participants knew about OpenUCT and were utilising the IR, whereas the other half was not aware of its existence. The study also revealed that the IR does meet most of their expectations and needs, although there were some areas where they felt their expectations were not met. The participants generally had positive attitudes towards the IR. However, the findings also revealed that students had negative attitudes regarding functionality. There were issues related to navigability, the usability of the OpenUCT user interface, findability, and accessibility of its content. Issues included difficulty in retrieving and locating content, the irrelevance of search results, poor presentation, inconsistency of content records and lack of specific search filters and fields that the participants thought would be useful when searching content. Other issues were duplication of search fields and content records, lack of clear visibility and transparency of outputs offered in the IR Communities. The study closes with recommendations on how those involved with IR and OpenUCT can proactively deal with these student concerns.

Contents

Chapter 1: Introduction to study

1.1 Introduction

Institutional repositories (IRs) are of importance in the "technological ecosystem of the open access movement" (González-Pérez, Ramírez-Montoya & García-Peñalvo, 2018: 70). In support of the open access (OA) movement, scientific information is stored and published through IRs in an open format (González-Pérez, Ramírez-Montoya & García-Peñalvo, 2021: 2). In an academic institution, IRs are usually developed and overseen by the library, providing free and online access to scholarly outputs of the institution while showcasing these outputs to the wider community. IRs have also become essential components of academic institutions to support their own academic activities. They offer access to products such as theses, dissertations, and other scholarly outputs for their academics, and students to use for academic purposes.

Postgraduate (PG) students who are involved in research writing are expected to access scholarly information to enhance the quality of their research (Ibrahim, Mohammed & Bawa, 2020: 436). They are therefore a set of end-users who would potentially access scholarly outputs through IRs to fulfil their research needs. The research in this study focuses on Masters students whose course has a dissertation element. These students interact and engage with different types of library services for their research purposes ranging from study space to information resources, including the IR. As the library provides a variety of services to users, in order to fulfil its purpose successfully it needs to be "continuously improved and informed by the users' experiences" (Walton, 2015: 2). This study set out to ascertain the user experience of Masters students of OpenUCT, the repository of the University of Cape Town.

1.2 Background to the study

An IR is defined as "a set of services that the university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members" (Lynch, 2003: 328). Academic institutions, research institutions, and other organisations have embraced IRs as a means to facilitate access to scholarly research outputs produced by their communities (Chilimo, 2015: 26). The adoption of IRs is due to the fact that they provide for "effective and efficient communication of scholarly outputs which is vital for the promotion and stimulation of a vibrant intellectual climate" (Kumah, 2018: 38).

In South Africa, there are 48 IRs listed in the Directory of Open Access Repositories (OpenDOAR, 2022). OpenUCT is on the list of these IRs.

OpenUCT is an open access IR of the University of Cape Town (UCT). The IR was launched in July 2014, and it became part of UCT Libraries' online information services (UCT Libraries, 2022). OpenUCT is beneficial to the institution because it makes available and digitally preserves the scholarly outputs generated by UCT's community (UCT Libraries, 2022). There are more than 21,000 items stored in the IR which include theses and dissertations, journal articles, book chapters, teaching resources, working papers and research reports (UCT Libraries, 2023). Theses and dissertations were previously archived as hard copies in the UCT Libraries Theses Collection, part of the Special Collections in the African Studies Library[1]. As technology developed, the library began to keep electronic copies on CD/DVD along with the printed copies. Through OpenUCT, these outputs are now accessible electronically and globally visible to a broader set of users internally and externally (UCT Libraries, 2023). OpenUCT is built on DSpace open-source software and is indexed by all major search engines (UCT Libraries, 2022).

The literature highlights the importance of user experience (UX) in library services. Academic libraries have shown a great interest in evaluating services from the end-user perspective through UX application (e.g. Mclaughlin, 2015; Walton, 2015; Appleton, 2016; Priestener & Borg, 2016). UX is a set of strategies that helps to understand users' needs and behaviours with the aim of designing "useful, usable, and aesthetically pleasing systems and services" (Pennington et al., 2016: 47). UX in libraries "seeks to identify how the library has a positive impact on the user by finding how the user interacts and uses the library's services, facilities and resources" (Appleton, 2016: 226).

Betz and Hall (2015: 56) consider UX as a strategy that academic institutions should adopt to improve their IR services. Application of UX could help to increase the use of the IR (Hswe & Tribone, 2014: 3). An easy-to-use system contributes to good UX (Schmidt & Etches, 2014: 6) while poor usability contributes to negative UX (McNamara & Kirakowski, 2006: 27). UX is not simply about measuring use but can also incorporates assessing awareness, expectations, and attitudes of users. Knowing the overall experience of users of an IR is a way to determine

[1] M. Noble & H. Hodgson 2023, personal communication, 8 May

users' level of awareness about the IR's existence and benefits, and whether users find it attractive and usable (González-Pérez, Ramírez-Montoya & García-Peñalvo, 2021: 19).

1.3 Statement of the problem

In general, academic libraries probably do not explore the daily experiences of users of their spaces, services, and products because they pay more attention to adapting to "ever-advancing technology and opportunity" (Priestener & Borg, 2016: 1). The success and effectiveness of services offered to users are rarely evaluated; for example, academic libraries seldom ask: "how well they meet user needs; whether user experience of them is good, bad, or average; and what values these touchpoints lead our users to ascribe to libraries" (Priestener & Borg, 2016: 1).

If an IR service is to be effective, it is necessary to pay attention to the user experience of the service. As OpenUCT is a valuable, useful information resource service of UCT, it is crucial to explore the user experience of its end-users.

1.4 Study objective and research questions

The objective of this study, therefore, was to investigate the user experience of OpenUCT. Because the researcher is a Librarian at UCT's Graduate School of Business (GSB), the focus of the study was on GSB Masters students whose course has a dissertation element.

The research questions guiding this study were as follows:

> RQ 1. To what extent are GSB Masters students aware of OpenUCT and what are their expectations of and their attitudes towards OpenUCT as an information resource?
>
> RQ 2. How do these students utilise OpenUCT for their information needs?
>
> RQ 3. What challenges are encountered by these students when using OpenUCT?

1.5 Significance of study

This study is expected to contribute to existing knowledge in the field of Library and Information Studies. The study points out the important elements relating to the user experience that UCT Libraries should be aware of regarding OpenUCT. It is the first UX study of OpenUCT; no studies have been conducted in this area since the launch of the IR. The study will help in identifying areas where there is a need to enhance the user experience of OpenUCT in order to retain its usefulness and service quality. The study will be of value to UCT Libraries

in general because UX can be used to evaluate any kind of user services. This could result in library management making informed decisions on how to enhance these services where necessary.

1.6 Overview of research methodology

Qualitative research is appropriate when the aim is to collect data on behaviours, attitudes, and experiences. Therefore, this study employed a qualitative research approach, underpinned by an interpretivist paradigm, in order to explore the awareness of, expectations of and attitudes towards OpenUCT as well as the utilisation of the IR and challenges experienced when interacting with it. As it was a UX study, an ethnographic research design was adopted using semi-structured interviews and structured observations to collect data. Semi-structured interviews and structured observations allowed the researcher to collect verbal and visual data for the research. The methodology is discussed in detail in Chapter 3.

1.7 Delimitations of study

Delimitations are the things that the researcher is not intending to do in the research study (Leedy & Ormrod, 2019: 50; Bloomberg and Volpe, 2019: 207). This research is delimited to Masters students of the GSB department in the Faculty of Commerce at UCT whose courses have a dissertation element. This group was chosen due to their proximity to the researcher and easy access for collecting the required data. Limitations of the study are discussed in Chapter 5.

1.8 Structure of the dissertation

The dissertation has the following structure.

Chapter 1 introduces the research study. Chapter 2 is the literature review and firstly covers the conceptual framework informing the study before reviewing the literature from related studies. Chapter 3 presents the research methodology, giving a comprehensive description of the research paradigm, research approach, research design and data collection methods used in the study, including ethical considerations related to the study and the data analysis process. Chapter 4 presents the data collected through interviews and observations. Chapter 5 discusses the main findings of the study in relation to the objectives of the study. It provides conclusions and recommendations about the user experience of OpenUCT and further research.

1.9 Summary of chapter

This chapter presented the background to the study, the research problem and the research objective and questions. It described the significance of the study and gave a brief outline of the research methodology used. Delimitations of the study were presented as well as the structure of the research.

Chapter 2 Literature review

2.1 Introduction

A literature review is a process of obtaining existing information about the investigated research topic by reviewing previous studies from scholarly publications, and it outlines the study's theoretical or conceptual framework (Bloomberg & Volpe, 2019: 11). The literature review covers the conceptual framework that underpins the study, IRs in academic libraries; UX and IRs and how the user experience of IRs can be enhanced. The chapter reviews literature from publications such as books, book chapters, journal articles and articles, mostly published in Africa, Europe, North America, and South America.

2.2 Conceptual framework: UX

Wisker (2009: 64) defines a conceptual framework as a framework of ideas, questions and theories which underpin the investigated phenomena. According to Bloomberg and Volpe (2019: 12), a conceptual framework gives structural guidance to the research. This study adopted UX as its conceptual framework. Many authors attribute the UX concept to Donald Norman (e.g., Hellweger & Wang, 2015: 1; Walton, 2015: 1; El Mimouni et al., 2018: 5). Norman's (1988: 188) book, *The design of everyday things,* introduced user-centred design, stating the importance of considering the needs and interests of users when designing a product or service so that it can be usable. UX has become a crucial area of focus for all industries because of growing "customer demand for useful practical, helpful, and desired technologies" (MacDonald, 2015: 1).

Hassenzahl (2008: 12) defines UX as a "momentary, primarily evaluative feeling (good-bad) while interacting with a product or service". According to Hussain et al. (2018: 121) "understanding user feelings, thoughts and needs is very important to engaging, sustaining and increasing the purchase of a product, system, or service". UX is an umbrella term that involves a broad range of users' perceptions and responses resulting from the "use and/or anticipated use of a system, product or service" (International Organisation for Standardisation, 2019, para. 36). These include users' attitudes, beliefs, emotions, preferences, behaviours, accomplishments prior to, during or after use (International Organisation for Standardisation, 2019, para. 36). In Norman and Nielson's (2022, para. 1) view, UX should cover every aspect of the end-user interaction with services or products. The

authors state that “an exemplary user experience is to meet the exact needs of the customer, without fuss or bother” (Norman & Nielsen, 2022, para. 2).

This study is guided by the components of user experience as illustrated by Beauregard and Corriveau (2007: 327). Figure 2.1 illustrates the key components applicable to UX and their relationships. The center of attention of the framework is the end-users’ interaction with the service (product). This interaction is affected by users’ perceptions; how they perceive the service is communicated through their emotions, thoughts and attitudes (Beauregard & Corriveau, 2007: 227). The entire interaction process, including UX components, is influenced by various factors such as knowledge/experience, concerns/expectations, skills/abilities, and personality/physical attributes of a user (Beauregard & Corriveau, 2007: 327). Users’ decisions on whether to use the service and interact with it or not relies on how they perceive the experience.

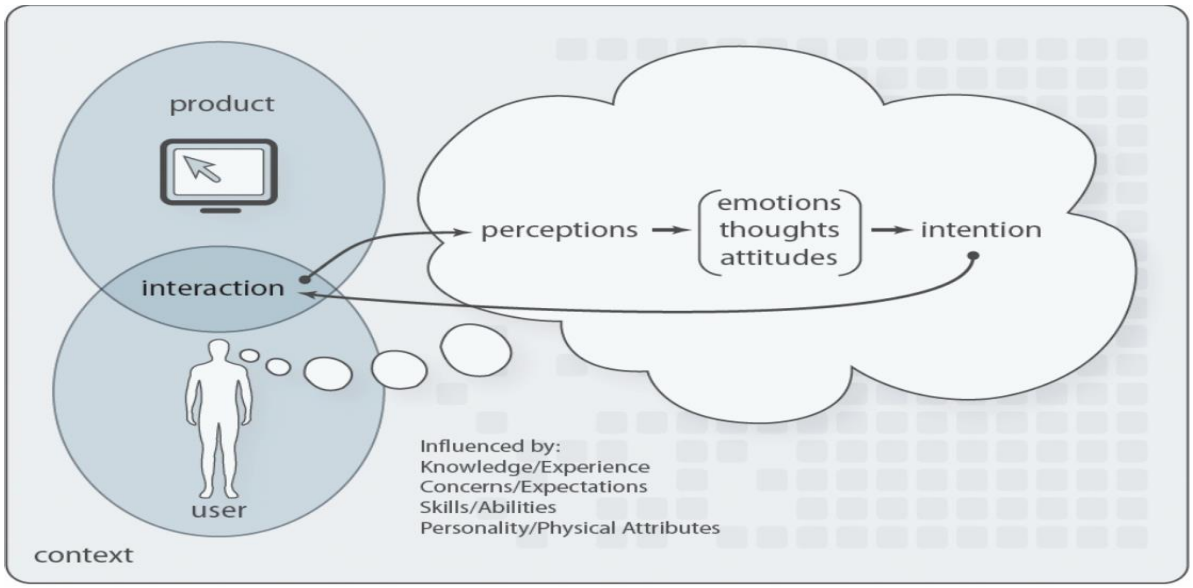

Figure 2.1 Components of User Experience (Beauregard & Corriveau, 2007: 327)

2.2.1 UX and libraries

As many services and information provided in libraries have transitioned to a digital form, the application of UX to evaluate user services is regarded as vital (Walton, 2015: 2). The expectations, motivations and feelings of users when interacting with electronic services have prompted the need to look beyond the “traditional functionality and usability concerns by evaluating and designing for the user experience” (Allam et al., 2013: 28). UX is not the same

as traditional usability and quantitative methods of evaluation (Roto, Obrist & Väänänen-Vainio-Mattila, 2009: 1; Appleton, 2016: 224; Emary, 2016: 68; Priestener & Borg, 2016: 2).

Appleton (2016: 226) explains that when technology and digital resources were new in libraries, the quality of library services was evaluated through usability methods. Several studies, such as those of Mvungi, De Jager and Underwood (2013); Maha and Blustein (2015a); Kliewer (2016), conducted research on the electronic resource services of libraries through usability testing. Usability testing mainly focuses on task performance and usability of the system, measured through "task execution time and the number of clicks or errors" (Roto, Obrist & Väänänen-Vainio-Mattila, 2009: 1). Libraries also used quantitative methods through surveys to gather statistical data about their services (Emary, 2016: 68; Priestener & Borg, 2016: 1).

However, these evaluation methods are insufficient to delve deeply into the interaction experiences of users when using the system (Emary, 2016: 69; Priestener & Borg, 2016: 2). They do not have the capacity to allow users to express their feelings and thoughts about services (Hussain et al., 2018: 21). This calls for libraries to consider applying UX methods when assessing their services.

In an environment such as academic libraries, where services are constantly changing, users' needs are the major priority. Libraries have come to a point where they are required to prove their value to users, thus requiring them to learn about users, their behaviors, needs and desires (Datig, 2015: 243). Understanding users' needs and behaviours are the critical aspects of UX (Pennington et al., 2016: 47). UX provides librarians with the opportunity to create a framework that allows them to listen and learn from users in order to understand why, when and how they do things (Priestener & Borg, 2016: 4). Librarians get to know and understand more about "users' needs, what they value about the library, their abilities and limitations" (Morville, 2004, para. 1). Mclaughlin (2015, para. 34) highlights the importance of shifting from a "library-centric point of view to a user-centric perspective" to involve the user participation in developing future libraries. Putting the user at the centre of the service is something that authors such as Norman (1988: 188) believes it would lead to better experiences.

However, Priestener and Borg (2016: 1) point out that librarians lack UX skills; they have not been trained how to properly apply user experience methods. Emary (2016: 68) argues that it can be tricky to determine what a user "truly needs and truly wants" as librarians cannot just

assume what will be usable, convenient, pleasurable and meaningful to users. The best way for librarians to know and understand how users experience services, what they really want and need, is to observe their actions (Emary, 2016: 68). This requires librarians to be equipped with UX skills, a basic understanding of UX principles and techniques as well as tools that they can use to practice them (MacDonald, 2017: 211; El Mimouni et al., 2018: 7).

Schmidt and Etches (2014: 4-7) discuss the following UX principles that librarians should apply to their services.

- You are not your user: any type of service provided to users should apply a user-centred design
- The user is not broken: instead of assuming that users are incapable of utilising the library system or doing something wrong when interacting with services, librarians need to teach and train users on how to use the system properly.
- Good UX requires research: in order to improve the services already provided, librarians must learn about the behaviours of their users utilising the facilities.
- Good UX requires empathy: librarians must be considerate of their users and understand their feelings towards services. They must adopt a user's perspective, putting themselves in the users shoes by practically interacting with all the library services so that they get the feel of how users experience these services. This will help librarians understand the user experience and enable them to create meaningful and engaging services that are easy to use.
- Good UX must be easy before it can be interesting: the functionality of library services especially their systems must be easy to use.
- Good UX design (UXD) is universal: the services provided should work easily for all users, including those with disabilities.
- Good UXD is intentional: every touchpoint of the library should be designed for a specific purpose and with considering the users first.
- Good UXD is holistic: all the service touchpoints of the library are important. Therefore, librarians should know and understand how users feel about these services.

González-Pérez, Ramírez-Montoya and García-Peñalvo (2021: 2) argue that IRs were "designed from the perspective of librarians, cataloguers, or systems engineers". If the services are designed without the user in mind, they put users at distinct disadvantage and set

them up for failure (Schmidt & Etches, 2014: 4). UX design is "based on the idea that products and services should be designed with the user in mind" (Datig, 2015: 234). Designing an IR from a user perspective can "greatly enhance the experience of utilising the IR (Luca & Narayan, 2016: 3). Therefore, it is necessary for designers to adopt a user-centred approach to "know and understand the end-user experience and create a design that allows them to effectively utilise the functionalities of the repository's website" (González-Pérez, Ramírez-Montoya & García-Peñalvo, 2021: 2).

UX is beneficial to all the aspects and areas of the library services and products, whether physical or electronic (El Mimouni et al., 2018: 2). El Mimouni (2018, para. 6) discusses the benefits of UX in libraries:

- UX helps with decisions about what products and services should be obtained and how they will be used.
- UX enhances the library's value to users.
- UX seeks to meet the needs and expectations of users.

Regarding electronic resources, including IRs, UX has become a "useful valued framework for examining library technologies from the user's perspective" (Luca & Narayan, 2016: 3). UX allows libraries to explore the interaction process of users with the library technologies and to make sense of these technologies (Betz & Hall, 2015: 44).

2.2.2 Elements of good user experience

There are several fundamental elements that create good UX. Usability, usefulness, and desirability are the first three elements of the "Trinity of good UX" (Schmidt & Etches, 2014: 3). Schmidt and Etches (2014: 3) believe that "every service, every resource, every interface, every space" must involve these elements for good UX. Morville (2004, para. 2) introduces seven factors essential for producing good UX and describes them as the User Experience Honeycomb (Figure 2.2). In line with Schmidt and Etches (2014: 3) the seven elements are as follows (Morville (2004: 2):

- **Usefulness –** a service should satisfy the needs of users.
- **Usability –** the system should be easy to use without putting in too much effort.
- **Desirability –** the service should be desirable to users.
- **Findability –** content should be navigable and locatable onsite and offsite .

- **Accessibility –** content needs to be accessible to all users including those with special needs.
- **Credibility –** users should be able to trust the service provided to them.
- **Valuable –** the service should be of value to users.

Figure 2.2 User Experience Honeycomb (Morville, 2004)

2.3 IRs in academic libraries

This section provides a general overview of the adoption of IRs in academic libraries. It describes the type of content stored in IRs, outlines the potential benefits of an IR to the institution as well as to users and, lastly, it describes the users of IRs.

2.3.1 The adoption of institutional repositories

Academic libraries have undergone a major shift towards showcasing intellectual outputs produced within institutions. The advent of Information Communication Technology (ICT), the Internet and the web "altered the patterns of communication and brought about a transition in scholarly communication" (Jelagat, Odini & Wamukoya, 2021: 77). Worldwide there were many developments of open access IRs in academic libraries which adopted IRs and integrated them as part of their services (Ibrahim, Mohammed & Bawa, 2020: 437). The main purpose of academic libraries is to support academics and students with "credible, factual, and reliable scholarly information" (Kumah, 2018: 38). To do this, libraries strive to make research and knowledge freely available and accessible to their users. IRs can self-archive institutions' intellectual outputs in a cost-effective way that facilitates OA (Ghosh & Kumar Das, 2007: 231).

Van Deventer and Pienaar (2008: 5) trace back the emergence of IRs in South African universities to the early 2000s when the University of Pretoria (UP) created a repository for

Electronic Theses and Dissertations (UpeTDs). UP was the first university in South Africa (SA) to have its own repository, now called UPSpace, and the repository has enlarged its content to include other internal publication outputs (Van Wyk & Mostert, 2014: 105).

Following the launch of UPSpace, many universities in SA created their own IRs (Van Wyk & Mostert, 2014: 105; Bangani, 2018: 42–43). The majority of these universities use open-source software such as DSpace for their IRs (OpenDOAR, 2022). Velmurugan (2013: 314) describes DSpace as a "digital repository system that captures, stores, indexes, distributes and preserves an organisation's research data". According to EBSCO Connect (2022), DSpace allows its metadata to be harvested via the Open Archive Initiative Protocol for Metadata Harvesting (OAI-PMH). OAI-PMH is very useful in OA "for managing and retrieving the right information to the right users at the right time or fulfilling the library objectives and users satisfactions" (Mandal, (2018: 418).

2.3.2 Content hosted in IRs

IRs store intellectual outputs of institutions, but the content hosted in IRs varies from one institution to another. IRs are "made at an institutional level, depending on the available content, content collection, and digitisation policies, as well as copyright considerations" (Chilimo, 2015: 28). Crow (2002: 16–18) described the essential elements of an IR as follows:

Institutionally defined: IRs store the inhouse content which is captured from original research and other intellectual property generated within the institutions from across all disciplines.

Scholarly content: Any kind of work produced by academics, including students' work, can be stored in the IR, depending on the goals set by the institution. For example, teaching material, monographs, artwork presentations, data sets, theses, and dissertations could be stored in an IR.

Cumulative and perpetual: The content deposited in an IR should be preserved and accessible in the long-term. Once the content has been submitted it cannot be withdrawn except when there is a special case.

Interoperability and open access: An IR should be accessible to a broader community than just users within the institution. This requirement can be satisfied by ensuring that the system can provide access to content via search engines such as Google and other discovery tools without implementing searching and indexing functionality.

IRs contain a diverse collection of intellectual outputs created by academics and students (Gunning, 2013: 6; Manchu & Vasudevan, 2018: 44). These outputs fall into different categories such as published materials which include post prints of journal articles. Other categories include grey literature, preprints, working papers, research and technical reports, conference proceedings, newsletters and bulletins, papers in support of grant applications, status reports to funding agencies, committee reports and memoranda, statistical reports, technical documentation, book chapters and surveys (Chilimo, 2015: 28). Additional categories encompass curriculum support and teaching materials, such as online lecture notes, concept illustrations, visualisations, models, simulations, course videos and, lastly, electronic theses and dissertations (ETDs) (Chilimo, 2015: 28).

ETDs form the largest collection of content in IRs because they are often the only place where PG students can deposit their research outputs. Student dissertations "form an important input of IRs" (Ibrahim, Mohammed & Bawa, 2020: 438). Crow (2002: 24) explains that these types of output provide "logical content to be captured" as they contribute to and add value to the institution's research (Crow, 2002: 24). The availability of ETDs in IRs enables research produced by students to be more widely known (Yiotis, 2008: 105).

2.3.3 Value and benefits of IRs

IRs are considered a "valuable proposition for universities" and they provide many benefits for institutions and their communities (Luca & Narayan, 2016: 1). The creation of IRs has contributed to enhancing the quality of scholarly communication by providing greater access to the research outputs of the institutions (Sembiring, 2020: 151). IRs showcase institutions' outputs by increasing visibility and prestige (Jain, Bentley & Oladiran, 2009: 3; Luca & Narayan, 2016: 3). This also has an impact on the increase of citation counts because the outputs are accessible to a wider audience (Luca & Narayan, 2016). Greater visibility of high-quality scholarship attracts high quality staff and students as well as research funding opportunities (Jain, Bentley & Oladiran, 2009: 3).

As a result of digitisation, IRs can increase access to documents that previously only existed in print format. These would just have been available to a smaller audience and not easy to obtain (Nagra, 2012: 140; Bangani, 2018: 39). IRs offer open networking opportunities for interdepartmental, cross disciplinary or cross-institutional collaboration (St. Jean et al., 2011: 37). St. Jean (2011: 22) also highlights long-term preservation as another benefit of IRs because the outputs become accessible for future research needs. Additionally, IRs are

beneficial to everyday academic life of the universities; they provide a virtual teaching space whereby lecturers make teaching and learning materials available and accessible to students (Jain, Bentley & Oladiran, 2009: 3).

PG students mentioned various benefits associated with IRs. Firstly, they saw the value of their theses and dissertations reaching a wider audience (Ibrahim, Mohammed & Bawa, 2020: 438). IRs are also convenient for students because once content is uploaded and made available it immediately becomes accessible (St. Jean et al., 2011: 37). Further, IRs provide a central place where related research findings are gathered together (Bamigbola, 2021: 182). IRs enhance the learning and innovation of the institution because students can see and access ETDs of their institutions, as well as those of other institutions and other research projects. As a result, students are able to see subject topics covered in their specific fields and the IR subsequently helps to improve the quality of their research (Ibrahim, Mohammed & Bawa, 2020: 444). IRs help students to keep up with the current research and to structure and format their own research (St. Jean et al., 2011: 32). Students also see IRs as channels that can expand their professional network, expose their work on Google Scholar, and allow them to share their work with others (Stanton & Liew, 2011: 12).

2.3.4 Users of IRs

According to the International Organisation for Standardisation (2019), users are people who utilise and interact with a system, product, or service. Mckay (2007: 1) and Wells (2009: 9) note that many IR studies focus on the contributors of content; in so doing they neglect the users accessing the content. According to Duranceau (2008: 15) and Mckay (2007:1) there is not much information on who IR end-users are, how they use the IR search functionality, how they experience the usability of the system, what they search for from the IR, how they are using its content and if they are satisfied with the quality of the content they retrieved from the IR.

Contributors are required to deposit content in the IRs. Content contribution is pivotal for the success and sustainability of IRs because without content IRs are worthless (Foster & Gibbons, 2005: 1). However, the end-users, or information seekers, are important too. End-users are considered as being “vital to the ultimate success of the IRs” because they are the ones who access and utilise content stored in IRs (St. Jean et al., 2011: 22).

Like any other service that is provided to users, IRs require management and maintenance so that they remain functional. IR content is collated and maintained by administrators. These

are data maintainers or curators or managers who oversee the entire collection, are responsible for creating metadata for the research outputs and they often upload the content (McKay, 2007: 4). In academic libraries, managers and maintainers of IRs tend to be librarians (McKay, 2007: 4). Dhanakar et al. (2008: 334) explained the role of librarians in IRs:

- They create IR policies and procedures.
- They contribute to the design process of the IR user interface (UI) to ensure that it is clear, easy to use and effective.
- They are involved in ongoing self-archiving activities.
- They do content depositing on behalf of faculty members.
- They create metadata.
- They organise and provide training to teach users how to search for content.

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2.4 UX and institutional repositories

This section discusses awareness, expectations, and attitudes of users with respect to IRs and the utilisation of IRs as key themes of this UX study.

2.4.1 Key terms

The study is based on the following key terms.

Awareness – Bamigbola (2021: 183) defines awareness as "state of consciousness of the existence, potentials and viability of something". According to Ibrahim, Mohammed and Bawa (2020: 440) awareness must be created before users will utilise any type of service. IR use is "based on the user's awareness about its existence, purposes and benefits" (Bamigbola & Adetimirin, 2017: 85). However, the fact that users know about the existence of an IR does not necessarily equate to its use (Watson, 2007: 5).

Expectations – Cooper et al. (1998: 43) define expectations as "assumptions about the likelihood of something occurring". Users have certain 'expectations' of the outcome when they interact with the product or service (Humpert, 2023: 1). Expectations are either "confirmed (when the experience with the product meets the expectations) or disconfirmed (when the experience is different than expected)" (Michalco, Simonsen & Hornbæk, 2015: 603). According to Naidu (2009: 59), a service which meets or exceeds expectations results in user satisfaction; failing to do

so is viewed as a problematic service. In order for library services to stay relevant to users and satisfy users, it is important to understand and meet the expectations of users (Anyaoku, Osuigwe & Oguaka, 2014: 108).

Attitudes – Attitude is described as a "set of emotions, beliefs, behaviours" of a person towards an object or something resulting from an experience, and it does not remain the same (Kendra, 2022: 1). According to Beauregard and Corriveau (2007: 328), "attitudes are judgments toward a target typically associated with value, good/bad, or helpful/harmful". Attitudes express the way a person positively or negatively feels about an object (Asia & Visser, 2012: 2). According to Adedimeji and Adekoya (2019: 42), attitudes play a significant part in how an electronic system is adopted and used. Understanding the users' attitudes plays a crucial role in how a library resource service such as IR can achieve its potential (Pickton, 2005: 6). Lew, Chennupati and Foo (2004: 17) believe that the success and acceptance of an information resource database are dependent on the "users' perceptions and attitudes towards it and in its ability to deliver these services through an interactive user interface".

Utilisation – Utilisation is defined as actual use of an information system by users (IGI Global, 2022). According to Ibrahim, Mohammed and Bawa (2020: 439), the "utilisation of a system is determined by the behavioural intention which is also influenced by the perceived usefulness of the system".

2.4.2 Studies on user awareness of, expectations of, attitudes towards and utilisation of IRs

In this section, previous studies were reviewed in relation to awareness, expectations and attitudes towards IRs and utilisation, including usability challenges, in academic institutions.

A study conducted by Pickton and McKnight (2006) investigated the potential role for research students in an IR at Loughborough University. The study showed that the research students in the study were unaware of the IR, and they had little understanding of IR purpose. Nevertheless, their attitudes regarding accessing and depositing content were positive as they expressed interest in accessing content produced by other students, particularly theses and dissertations. They expected to access content produced by other students and academics.

St. Jean et al. (2011) conducted an exploratory study to investigate the perceptions and experiences of end-users of an IR. The study found that the users had a basic understanding

of what an IR is. Some users were aware of the existence of the IR, although there were still issues of unawareness among others. Overall, their attitudes were positive towards the IR as well as its content in so much as that they were willing to continue using the IR and recommend it to their peers. The fact that the IR was institutional created trustworthiness about its content. Although some of the users had trust issues with content available in the IR, this was attributed to a lack of knowledge about whether the content was peer-reviewed or not. Their expectations included finding content that would meet their needs, unpublished materials and raw data that was not accessible anywhere else and peer-reviewed content.

Stanton and Liew (2011) conducted a study on IR awareness and attitudes of doctoral students at Massey University in New Zealand. This study also revealed a low usage rate of the IR due to lack of awareness of the IR's existence and its benefits, a lack of understanding what an IR is, how it operates and its purpose. The use of other information resources was a contributing factor towards the non-use of the IR.

A study conducted by Halder and Chandra (2012) investigated users' attitudes towards the IR at Jadavpur University in India. The study found that there was high level of awareness among students and the users felt positive about the IR because they seemed to understand its purpose. The convenience of information accessibility anytime and anywhere with no time and space restrictions was another contributing factor to these positive attitudes.

Abdelrahman, (2017) investigated the use of the KhartoumSpace IR by the University of Khartoum graduate students. The findings revealed that students were aware of their university IR, and they had positive attitudes towards it as some indicated that they would use it and recommend it to others .

Saulus and Mutula (2019) conducted a study at the University of Swaziland to investigate awareness and attitudes of faculty members and PG students regarding the use of the IR. The study revealed a lack of awareness of the IR existence among these students. Some had negative attitudes towards the IR due to lack of training on how to utilise the IR while others lacked the skills to use the IR, preferring to access scholarly journals. Some PG students did not find the IR useful at all. The study suggested that the library needs to raise more awareness through advocacy campaigns, frequent training sessions should be provided to guide the students on how to effectively use the IR and that librarians should be assisting users to do this.

A study conducted by Nunda and Elia (2019) investigated IR adoption and use by graduate students in Tanzanian higher learning institutions. The study indicated students knew about the IR and had positive perceptions of the IR. They were utilising it to access content. However, overall, there were low awareness levels of the existence of the IR and of its services. Therefore, it was recommended that the library staff and faculty members should collaborate to influence students to use the IR.

Ibrahim, Mohammed and Bawa (2020) conducted a study on perceptions of graduate students about IR use at the University for Development Studies in Ghana. The study found that many students were aware of the existence of the IR but were not utilising it. The findings showed that problems with ICT connectivity, infrastructure, and erratic power supply were the cause of this issue. Nevertheless, students' attitudes towards the IR were positive as they pointed out that the IR enhanced their learning and innovation.

Safdar (2021) carried out a study to assess students' perceptions about the Pakistan Research Repository. Students knew about the IR and its services and were utilising it to access content they needed. However, most students were dissatisfied with the IR content as it was not relevant to their needs. They reported various challenges when trying to use the IR. These included lack of IT skills, load-shedding, problematic electricity supply as well as internet speed. The study concluded that these issues are the reasons that led to dissatisfaction towards the IR.

Awareness about IRs remains essential for their use. The fact that IRs exist in academic institutions does not equate awareness to users. They will not automatically know if they are not informed about the existence of IR, hence there is still a need to raise more awareness to fill this gap. The literature (for example, Bamigbola & Adetimirin (2017); Ibrahim, Mohammed, and Bawa (2020)) emphasises the importance of creating awareness before users could use any type of service. When the users are aware of the existence of an IR and its services and benefits, they are likely to use it (Singeh, Abrizah & Karim, 2013: 25; Chilimo, 2016: 9).

What the studies have in common is that awareness predominates over other factors. The studies revealed that user awareness of IRs is generated through a range of sources which include academic advisors (librarians, lecturers), the internet (the library website), general word of mouth (colleagues, friends, emails) and during training or information sessions (orientation classes, library trainings, workshop seminars). Awareness, expectations, and

attitudes all contribute to the user experience of an IR. These factors influence the utilisation of a repository either positively or negatively. When users are aware of the existence of IRs, including its services and benefits, and when the IR meets their expectations, users develop positive attitudes due to good user experience.

2.4.3 Utilisation of IRs

Ibrahim, Mohammed, and Bawa (2020: 441) state that IRs are increasingly utilised by PG students when they are writing a dissertation. This means that PG students are expected to engage and interact with IRs to search and locate the content required for their research needs. In order to utilise IRs, students should know how and where to access IRs. Unlike subscription databases that require user credentials to gain access, students find access to IRs easy because IRs do not require any user authentication or registration (Sembiring, 2020: 150).

The literature shows that the methods of accessing IRs are quite diverse. For instance, users might access the IR through the hyperlink from their university library webpage or by pasting the IR hyperlink into a web browser (St. Jean et al., 2011: 38–39; Abdelrahman, 2017: 107). Students can intentionally access an IR via a search engine that searches for the name of the IR (St. Jean et al., 2011: 30; Maha & Blustein, 2015b: 635; Abdelrahman, 2017: 107). This method is particularly used when students do not know the access points on the institution's website (Maha & Blustein, 2015b: 635).

The study of Stanton and Liew (2011: 9) revealed that PG students at Massey University used the Massey Online Research repository indirectly without knowing they were retrieving content from it. This generally happens when users locate IR content via an internet search engine and library online catalogue. These students were using Google Scholar and the Massey Library catalogue to access content and ended up unknowingly retrieving content from their IR (Stanton & Liew, 2011: 9). Similarly, Shiweda (2018: 48) and Sembiring (2020: 151) found that PG students at the Namibia University of Science and Technology and of the universities in Yogyakarta were using Google and Google Scholar when they needed content. St. Jean et al. (2011: 29) found that students might be using the IR because they could not differentiate it from other library databases used to access information. The same might happen when students search for content from a discovery resource service (e.g., Primo).

The studies of Manchu and Vasudevan (2018: 47) and Sembiring (2020: 150) revealed that the motivating factor for students to utilise IRs was the need to access content that would develop and improve the quality of their research. Various studies revealed that many PG

students are interested in accessing ETDs from IRs (Pickton & McKnight, 2006: 215; St. Jean et al., 2011: 31; Maha & Blustein, 2015b: 631; Abdelrahman, 2017: 106–107; Ibrahim, Mohammed & Bawa, 2020: 441). Although ETDs is the type of content most sought by students, the literature showed that other e-research outputs, such as journal articles, were being accessed as well (Maha & Blustein, 2015b; Abdelrahman, 2017: 106–107).

Different purposes drive PG students' interests in and intentions to access and use IR content. Students choose to access IRs to look at current research projects conducted in the institutions and those conducted by faculty members, to look at what a dissertation is composed of, to check the format, structure and style guidelines of a dissertation, to find dissertations with similar topics to theirs and those that were supervised by a specific supervisor (St. Jean et al., 2011: 31; Maha & Blustein, 2015b: 631–633). PG students at universities in Yogyakarta indicated that they utilised IRs for content so that they could look at research references and get new ideas for their research, to find guidelines on writing and preparing a final research project (Sembiring, 2020: 150) and to gather literature for their research (Adedimeji & Adekoya, 2019: 46). Generally, PG students are potential end-users of IRs and those that use them found IRs to be a source of knowledge to meet their academic needs.

For an information system, the interaction process is the most important part of UX (Beauregard & Corriveau, 2007). According to Lister (2019: 18) interaction is where the user interacts with the system's interface. Based on their "skills, knowledge, motivation and persistence" user may continue or discontinue using the system. The literature showed that many IRs consists of a search functionality that provides different search fields, features, and filters which allow users to search, retrieve and locate content they need. The study by St. Jean et al. (2011: 10) indicated that when students interact with the IR to retrieve content, they use available search features provided in the IR. These include the author, title, subject, geographic location, keyword and browse search features. Some students like to use the *Browse* feature which allows them to select a specific search category; for example, browsing by author or title. Others prefer to just browse through the recently added items when they do not know what exactly they are looking for (St. Jean et al., 2011: 10).

2.4.4 Factors affecting utilisation of IRs

The literature highlights various critical factors that impact the use of IRs. They include visibility and transparency of the IR, its content and benefits (St. Jean et al., 2011: 40; Ratanya, 2017: 282; Shiweda, 2018: 157; Ukwoma & Ngulube, 2019: 139; Ibrahim, Mohammed &

Bawa, 2020: 445). According to Ukwoma and Ngulube (2019: 139) lacking knowledge about content hosted in IRs is a major issue as it results to improper use of these outputs. This is supported by Bamigbola and Adetimirin (2017: 85) who claim that IR use is dependent on user awareness of its existence, its purpose and benefits. Utilisation of an IR increases when users know about its existence and of its benefits (Chilimo, 2016: 9).

The literature also showed that not all students access IR content or find it relevant and useful to their needs. According to Maha and Blustein (2015b: 635); Ibrahim, Mohammed and Bawa (2020: 439) students tend to not utilise the IR if it does not meet their needs. Findings in the study of Pickton (2005: 32) and Shiweda (2018: 187) revealed a lack of content to meet the research needs of PG students. According to findings by Stanton and Liew (2011: 9), PG students did not consider IRs essential for their research needs; their needs were met through using other library databases. The studies of Pickton and McKnight (2006: 206); Stanton and Liew (2011: 10); St. Jean et al.; Shiweda (2018: 188) revealed that students were more likely to use Google and Google Scholar to meet their information needs instead of their institutions' IR. These findings show that students chose Google as their starting point when they searched for content. The findings of St. Jean (2011: 33) and Adedimeji and Adekoya (2019: 45) revealed that students were discouraged from using the IR because they thought that it did not have quality and peer-reviewed content. Ibrahim, Mohammed and Bawa (2020: 439) argue that the acceptance and use of an IR relies on the perceptions of students as to whether it provides information resources that meet their needs and its ease of use.

Ease of use of the IR system is another significant contributing factor. Problems with ease of use can be attributed to a lack of the necessary skills and training to navigate through the IR, as found in studies by Shiweda (2018: 187), Saulus and Mutula (2019: 14) and Adedimeji and Adekoya (2019: 45). St. Jean et al. (2011: 30) and González-Pérez, Ramírez-Montoya and García-Peñalvo (2021: 11) found that users were unhappy about the layout of the IR, and the presentation of the content even if appropriately organised. The users also identified poor search functionality on the IR website. This included the lack of a search categories that they needed to use when conducting a search. Users noted the challenges of using the *Browse* feature because they could not navigate the IR successfully using this search field. According to Ibrahim, Mohammed and Bawa (2020: 443), when users find IR easy to use, they will continue utilising it but when it is not easy, they refrain from utilising it.

2.5 Improving user experience of IRs

It is essential to make known to end-users the existence and entire services of IR. Therefore, improving the user experience of an IR can start with creating awareness about its existence and its content. Jelagat, Odini and Wamukoya (2020: 108) explain that "effective marketing and promotion remain key for the successful implementation, visibility and use" of an IR. According to Holtzhausen (2010) cited in Kumah (2018: 40) such promotion involves a range of communication strategies and activities aimed at the targeted users (such as, in this study, postgraduate students).

Advocacy campaigns are considered appropriate for promoting the existence and use of IRs as an information resource (Pickton & McKnight, 2006: 217). Most academic libraries have taken the initiative of developing and maintaining repositories (Ratanya & Muthee, 2018: 4). However, raising more IR awareness in end-users is still needed because these campaigns have mostly been targeted at content contributors instead of those who access the deposited content (Oguz & Assefa, 2014: 190). The literature proposes that libraries should take responsibility by proactively running these advocacy campaigns to raise more awareness among postgraduate students (Abdelrahman, 2017: 107; Saulus & Mutula, 2019: 17). Kumah (2018: 41) argues that this is good practice for librarians in developing an IR because they get the opportunity to better understand the processes that can help to satisfy the information needs of users.

Methods to promote IRs include libraries organising orientation sessions to educate PG students on the benefits of using the IR for their studies, especially those who are doing research (Ibrahim, Mohammed & Bawa, 2020: 446). Other strategies such as seminars and presentations, leaflets, posters, newsletters, links from library web pages and links from the library catalogue can help to promote IRs (Pickton & McKnight, 2006: 217).

Knowing the type of content that IRs offer is important because this is what attracts users to utilise them. St. Jean et al. (2011: 40) concluded that greater visibility of the IR and more transparency regarding the types of content stored in IRs can help to "reach the attention of potential new contributors and end-users, but also to retain the attention of existing users".

IRs should offer content that is beneficial to users, fulfils their needs and expectations. According to Morville (2004), the usefulness and credibility of content have a significant impact on user satisfaction. It is worth having a repository with content that is both trustworthy and also useful to meet the needs of users. This area can be enhanced by making sure that the

content in an IR is sufficient, useful, and credible to satisfy the information needs of its users. To ensure that the content generated in IRs covers these aspects, the IR must be institutionally based and include teaching material and research papers, whether published or unpublished, as well as scholarly content such as peer reviewed journal articles (Crow, 2002: 16).

IRs should provide a satisfying experience. Assessing the UI of IR and its search functionality is essential for enhancing the user experience of an IR. According to Morville (2004), the system must be easy to use, its content must be easily available and accessible to all users, even if they are novice users. Ease of use of an IR system can be increased by providing training sessions to potential users of the IR, particularly students (Pickton & McKnight, 2006: 217; Saulus & Mutula, 2019: 17). This training would assist students to acquire skills needed so that they can easily search and retrieve content on IRs and do so efficiently and effectively (Saulus & Mutula, 2019: 17; Ibrahim, Mohammed & Bawa, 2020: 446). Another suggestion is to create Do-It-Yourself (DIY) short videos (Ibrahim, Mohammed & Bawa (2020: 446). Maha and Blustein (2015a: 119) propose the application of heuristic evaluations on the IR interface and its search functionality to support the ongoing development of IRs. According to St. Jean et al. (2011: 40), improving an IR's search functionality would encourage end-users to continue using the IR and to recommend it to others as well.

2.6 Summary of chapter

This chapter outlined the conceptual framework that the study applied and also explored some important themes relating to the user experience of IRs. It reviewed literature on awareness, expectations, attitudes towards IRs , and factors involved in the utilisation of IRs.

Chapter 3: Research methodology

3.1. Introduction

Research methodology refers to a systematic approach that incorporates a range of methods used in the entire research process of the study (Collins & Hussey, 2009: 11). It gives guidance to the researcher in deciding why data should be collected, what kind of data should be collected, how it should be collected and how to analyse data (Wisker, 2009: 90).

3.2. Research paradigm

A research paradigm is a philosophical framework that gives guidance on "how research should be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledge" (Collins & Hussey, 2009: 55). This study was guided by the interpretivist paradigm. In interpretivism, the researcher trusts in "socially constructed multiple realities" (Rehman & Alharthi, 2018: 55). Therefore, interpretivism enables the researcher to view the real world through the perceptions and experiences of the participants and the researcher can use these to interpret their understanding from the collected data (Thanh & Thanh, 2015: 24).

3.3. Research approach

This study employed a qualitative research approach. This approach has the purpose to explore, understand and interpret the meaning of a particular phenomenon (Creswell & Creswell, 2018: 4). It is used when a researcher wants to collect data on people's behaviours, feelings or emotions, perceptions, attitudes, and experiences to get a better understanding of their world (Mohajan, 2018: 2; Harding, 2019: 20). This approach is appropriate for this study as the researcher wanted to generate data from the participants by investigating their awareness of, expectations of and attitudes towards a service as well as the utilisation of the service.

3.4. Research design

Research design "represents a practical plan of the methods to be used for sampling, data collection and data analysis" (Harding, 2019: 34). For this study, an ethnographic research design was used to gain an in-depth understanding of user experience of the IR. Reeves et al. (2013: e1367) describe ethnography as a type of research design that is exploratory in nature, where the researcher explores and grows to understands a cultural group of people as well as their social interactions. Ethnography is a qualitative research design (Ramsden, 2016: 9)

which tries to understand the behaviours of participants (Goodman, 2011: 2). In ethnographic studies, the researcher's interpretation should be based on the perspective of that particular social group that is being studied (Collins & Hussey, 2009: 79).

In the Library and Information Studies field, the application of an ethnographic approach is useful when conducting UX projects to evaluate library user services and the use of resources (Appleton, 2016: 224). These ethnography UX evaluation practices are mainly conducted with a specifically targeted user group (Silipigni & Radford, 2017: 284).

Ethnographic researchers collect data from people who have direct experiences with the research phenomenon (Ward & Duke, 2011: 66). Users of the library are seeking better user experiences; these cannot be evaluated and measured through surveys or statistical data (Goodman, 2011: 8). As Ramsden (2016: 12) explains, the application of ethnographic methods in library studies "can give you more detail of what often goes unseen, things that you might even be aware are happening but are effectively hidden when you try to research them because you don't get the answers you were expecting".

3.5. Research methods

Research methods are the techniques that are used to collect and analyse data (King, Horrocks & Brooks, 2019: 7). UX uses various ethnographic methods that are applicable to collect qualitative data, including semi-structured interviews and observations (Ramsden, 2016). Through these methods, the researcher is able to obtain "detailed, real-time, in-depth qualitative data" about what is happening in libraries (Ramsden, 2016: 9). These methods are helpful when investigating a research phenomenon that involves learning about library users, how they utilise services, spaces and information resources and the challenges that they encounter when interacting with library services and resources (Goodman, 2011: 1; Appleton, 2016: 224).

The research methods selected for this study were semi-structured interviews and structured observations. According to Collins and Hussey (2009: 85), the researcher is allowed more than one data collection instrument to collect data in a process known as triangulation. Triangulation helps to obtain enriched information and is a way of ensuring accuracy and reliability of the data collected (Kumar, 2019: 33). It also increases trustworthiness of the research analysis (Silipigni & Radford, 2017: 230). Ramsden (2016: 14) points out that the use of semi-structured interviews when collecting data works well when used in combination with observation.

3.5.1. Semi-structured interviews:

In general, interviews “directly solicit” the perspectives of individuals that are being studied (Saldana, 2011: 75). Interviewing processes involve the researcher in directly asking questions from the participants, listening to their opinions and asking probing questions to explore more ideas (Harding, 2019: 44). Researchers often use interviews when they are seeking information on experiences and perspectives of participants (Silipigni & Radford, 2017: 239). Data in this study was collected through a series of semi-structured interviews. For a semi-structured interview, the researcher needs to have an interview guide that consists of a set of questions related to the research topic and the researcher should be open to allowing the participant to give more explanation on the questions asked (Ramsden, 2016: 14). The questions should cover the same topics for all the participants (Corbin & Strauss, 2015: 39). However, even if the questions are pre-arranged, there is an opportunity for the researcher to ask additional questions, and the participants are also allowed to add any relevant information to the research study (Corbin & Strauss, 2015: 39).

Interviews have advantages and disadvantages. Chances of the participants misunderstanding the questions are limited because they are allowed to ask for more explanation or ask for the question to be repeated (Kumar, 2019: 228). The recording of interviews when collecting data is possible, as long as the participant grants permission (Saldana, 2011: 38). The use of a recorder is advantageous because the researcher does not have to capture so many notes and can rather pay more attention to and listen to the participant's response (Silipigni & Radford, 2017: 245). The researcher then has to transcribe the interview recordings.

There are, however, disadvantages that affect the interview data collection process. Interviews are time-consuming and expensive, especially if the people are not from the same setting because the researcher must reach out to them individually and even travel to meet them (Kumar, 2019: 228). The quality of the interaction between interviewer and interviewee is something that can affect data obtained because “quality of the data generated is affected by the experience, skills and commitment of the interviewer” (Kumar, 2019: 228).

3.5.2. Structured observations

Observation allows the researcher to collect non-verbal data. This instrument is used when the researcher wants to observe the interactions and behaviours of participants while a particular phenomenon occurs (Kumar, 2019: 217). During the observation session, the researcher is expected to concentrate on the participant’s involvement as he or she deals with the real-life

situation (Pickard, 2013: 226). Structured observation is a formal method that has a set of rules when collecting data. These include instructions on what to record and observe (Harding, 2019: 47).

The advantage of observation is that the researcher can simultaneously capture data through audio or video recording (if permission is granted) and capture field notes of activities (Collins & Hussey, 2009; Silipigni & Radford, 2017: 273). Leedy and Ormrod (2019: 243) explain that written notes do not capture the richness of what the researcher is observing and that is why recording is also needed. Recording allows the researcher to clarify things that the participants are not sure about and to ask questions, and participants can also express their own views (Creswell & Creswell, 2018: 187).

There are nevertheless some disadvantages to using observation when collecting data. When people know that they are being observed they change their behaviour which could result in "less naturalistic research" (Harding, 2019: 48). It becomes difficult to observe, record and at the same time write down some notes because the researcher can end up being distracted and missing some of the important things during interactions (Punch, 2014: 341).

3.6. Population and sampling

The population is the "entire set of participants" from which the study sample is selected (Pickard, 2013: 60). The targeted population for this study was the Masters students of the Graduate School of Business department in the Faculty of Commerce at the University of Cape Town. The UCT GSB department has a population of 615 Masters students which includes those who are doing a minor dissertation.

It is impractical to collect data from a large population because not all units of the population can be included in the research. The researcher is therefore entitled to employ a sampling method so that a sample can be selected (Harding, 2019: 50).

A sample is the "subset or subgroup" chosen from a larger population that is being studied to obtain the required data (Collins & Hussey, 2009: 208). The researcher found it necessary to select a sample as this study is dealing with a larger population. In addition, this is a qualitative study; there has to be a limit on the number of participants interviewed and observed because of the time involved in analysing the data produced.

3.6.1. Purposive sampling

A purposive sample was used to select participants from the student population. Purposive sampling falls under non-probability sampling and allows the researcher to purposely select a group of participants to investigate the research phenomenon (Leedy & Ormrod, 2019: 178). Purposive sampling is applied when the researcher pursues "information-cases that are able to provide individual perspective and experiences" applicable to the research questions (Jameel, Shaheen & Majid, 2018: 6) and is "based entirely on the researcher's knowledge of population and the objectives of the research" (Silipigni & Radford, 2017: 136). This means that only those who fulfill the purpose of the study will be selected to participate.

In qualitative research, the researcher is permitted to select a small sample of participants with, it has been suggested, a sample size of 3-30 individuals (Creswell & Clark, 2011: 174). In this study, the researcher was interested in obtaining data from those GSB Masters students who might have knowledge and understanding of OpenUCT. Out of 615 Masters students at GSB, the researcher purposively selected a sample size of 12 students writing or due to write a minor dissertation. The participants were divided into two groups, each consisting of 6 participants for interviews and another 6 for observations. At GSB, minor dissertation students include MPhil and MCom students. A key informant was invited from the library to participate to provide their perspective as the expert on OpenUCT at UCT Libraries. The invited individual holds all the necessary information about OpenUCT and has knowledge and understanding of the IR services.

Ethnographic qualitative studies focus on finding the truth about the research phenomenon. Therefore, generalising the findings is not possible, especially in a study that deals with a small sample and whereby the participants are not representative of the population (Silipigni & Radford, 2017: 283). For this study, generalisation of the findings will not be applicable.

3.7 Data collection

The researcher received permission from UCT's Department of Student Affairs to invite students to participate in the study. The invitation for interviews and observations was sent by the GSB student office via e-mail to all GSB MPhil and MCom (Appendices A & D). The response rate was low, and that led the researcher to take responsibility and personally send the invitation to the students. That led to a higher response rate. The researcher was also granted permission by UCT Human Resources office to approach the key informant to participate in the study. The interview invitation was sent via email to the key informant (see

Appendix G). Prior to the interviews and observations, the students who accepted the invitation and the key informant were requested to read the consent form and sign it. The participants were granted two options: either to use the consent form that was attached in the email invitation or the one made available on SurveyNet online through the GSB website (Appendices B, E & H). The participants were provided with the Uniform Resource Locator (URL) which directed them to the online consent form where they were able to read and complete it (Appendix J).

Out of twelve participants, eleven students used the online consent form. One participant preferred to read and sign the form that was attached to the email invitation.

The data collection process started in December 2020 and ended in March 2021. The allocated time for each interview and observation was one hour. Due to COVID-19 restrictions, the researcher conducted both interviews and observations via a virtual communication platform (MS teams & Zoom). The researcher allowed participants to select their preferred virtual communication platform so that they would not hesitate to participate. This was a way of avoiding a low response rate from the students participating in the data collection process. One participant preferred to be interviewed telephonically. According to Silipigni and Radford (2017: 246), telephone and virtual interview via telecommunication and computer devices is an alternative way to collect data if the researcher cannot have face-to-face interviews with participants.

As the researcher could not observe the participants in the natural setting, which was one of the computer labs at UCT, observations were conducted via the online communication platforms. This method allows the researcher to be physically present in the field when collecting data, or alternatively she can conduct virtual observation using an electronic device such as laptop or mobile phone (Harding, 2019: 35). The researcher asked each of the participants for permission to do screencast recording whereby the participants were sharing their screens while performing the tasks. The researcher was able to see what appeared on the participants' screen and what and how they were doing when performing tasks.

A 'think aloud protocol' was used during observations. This is a verbal method which is mostly used in usability testing to elicit participants' insights while they perform tasks (Fan, Shi & Truong, 2020: 86). 'Think aloud protocol' allows the participants to express their thoughts and feelings, then the researcher is able to capture how users feel while performing a task (Hussain et al., 2018: 1). Therefore, for this study the participants were permitted to

verbalise their thoughts and feelings while interacting with OpenUCT, and after completing the tasks. All the interviews and observations were recorded, and notes were captured on responses and interactions of participants for data analysis purposes. The interviews and observations with students were conducted on different dates and times. All the interviews lasted less than an hour, but observations lasted an hour or even more than that (I hour 5 minutes or 10 minutes). The interview with the key informant took place on MS Teams on the 12th of April 2022 and lasted for 45 minutes.

3.8. Reliability and validity

Reliability and validity are important in research. They are "used for testing, evaluating measurements of variables and ensuring the quality of data, research design methods and the overall accuracy of the study results" (Adams et al., 2014: 245). Reliability refers to the consistency and stability of the research instrument when used repeatedly under the same condition where it is expected to produce the same results (Kumar, 2019: 273). Validity refers to the accuracy of the research findings that reflect the phenomena under study (Collins & Hussey, 2009: 65). The validity of this research was partly assured by using two data collection instruments. Additionally, to enhance validity and reliability, the supervisor of this study and the faculty Ethics Committee reviewed the interview questions and the observation script to make sure that they were appropriate for data collection.

In qualitative research, trustworthiness is important to ensure quality and credible conclusions (Leedy & Ormrod, 2019: 93). To enhance trustworthiness and show accuracy of the findings, the interpretation of the data was according to the participants' thoughts, views and opinions. The researcher showed authenticity in conveying participants' responses, experiences and expressions about the research phenomenon being studied by presenting their actual words through raw quotes in some sections. In this way, the findings would reflect data collected from the participants. The researcher avoided bias by interpreting data in a manner that did not exclude some of the collected data.

As the nation was in lockdown due to COVID-19, the researcher had to make some changes to the data collection process. Most of the time the nature of qualitative studies requires the researcher to have direct contact with the participants when gathering data (Silipigni & Radford, 2017: 217). In this research project, the researcher was not allowed to have face-to-face interviews and physically observe the participants. In this case, reliability was shown by

consistency of the research instruments when collecting data with no direct contact with the participants.

Both the research instruments remained suitable measurement tools for the study even though there were changes. They offered some flexibility to the data collection process allowing the researcher to make use of alternative ways to collect data. The researcher prepared the interview questions in two sets: questions for students and questions for the key informant. The interview questions and observational tasks were prepared and presented in a simple and structured manner that provided clarity and did not confuse the participants. The questions covered specific concepts that were related to the research questions following the UX principles. The researcher made audio and screencast recordings to capture the information accurately from the participants and for data analysis purposes. The researcher used the 'think aloud protocol' for observations to allow participants to voice their thoughts and express their feelings while performing the tasks and after the completion of tasks. The key informant from the library asked to see the questions prior to the interview. There was no negative feedback on any of the questions.

3.9. Ethical considerations

In most qualitative research studies, human subjects are part of the investigation (Saldana, 2011: 24). It is important to apply ethical principles in studies that involve human subjects (Silipigni & Radford, 2017: 86). This study involved human subjects, therefore protecting participants from any kind of harm was needed. The research ethics provide assurance that no harm should come to any participants (Saldana, 2011: 24). Voluntary participation is important; no coercion is allowed to force people to participate in the research (Collins & Hussey, 2009: 46). Anonymity and assurances of confidentiality should be offered to all the participants (Collins & Hussey, 2009: 46).

To obtain the necessary clearance to conduct the research investigation, the researcher applied for ethical approval from the University of Cape Town Research Ethics Committee in the Faculty of Humanities (refer to Appendix L). The participants were fully informed of the study ahead of time and had the opportunity to ask questions about the study and anything that needed clarification.

3.10 Summary of chapter

This chapter discussed the research paradigm, research approach, research design and data

collection methods that were employed in the study. It outlined the population of the study and the sampling method that were used. The ethical considerations were identified and the measures to protect participants from any form of harm.

Chapter 4: Data analysis

4.1 Introduction

This chapter presents analysis of data gathered using the research methods discussed in Chapter 3. Data was collected through interviews and observations from UCT GSB Masters students. To supplement this data, an interview was conducted with a key informant who holds information about OpenUCT. This chapter will first present the data from the students and then that from the key informant.

Data was analysed manually to check for similarities and differences among the participants' responses. Transcripts and notes that were recorded during data collection were interpreted and given meaning.

4.2. Demographic information of students

The first part of interviews and observations collected participants' demographic information. Including demographic information was to ensure that data was collected from the relevant participants. The questions on demographic information included the type of degree, course programme and the level of study (see Table 4.1**).** The participants comprised students who were in the beginning, middle and final stages of writing their dissertation.

Table 4.1 Students' demographic information

Level of study	**Degree & course programme**	**No. of participants for interviews**
2nd yr	MPhil Inclusive Innovation	3
3rd yr	MCom Development Finance	2
4th yr	MCom Development Finance	1
Level of study	**Degree & course programme**	**No. of participants for observations**
1st yr	MPhil Inclusive Innovation	1
2nd yr	MPhil Inclusive Innovation	2
3rd yr	MCom Development Finance	2
4th yr	MCom Development Finance	1

4.3 Presentation of data: Student interviews

This section presents data collected from semi-structured interviews with the students. Data is presented according to the sequence of the semi-structured interview questions (refer to interview guide Appendix C). The interview questions helped to elicit data on student

awareness of OpenUCT, their expectations and attitudes towards OpenUCT, their utilisation of OpenUCT and the challenges that they encountered in relation to the use of OpenUCT. For the sake of anonymity and confidentiality, the participants will be referred to as ISP which stands for interview student participant.

4.3.1 IR knowledge (Q1 of interview)

Three of six participants interviewed (ISP1, ISP5, ISP6) were familiar with what an IR is, and they provided the description according to their knowledge and understanding.

According to ISP1, an IR "*is an interface where institutions store information for access to be by external users, for institutions, like companies they do it for investors or customers, for university it will be students or alumni or any person that would be interested to such information".*

ISP5 said that an IR "*is some form of library or repository that houses information resources that belong to an institution or that have been generated by people at an institution".*

ISP6 said that an IR "*is where an organisation keeps information and knowledge that's been gathered and it's a central database or source where this information can be obtained".*

The other three participants which were had no knowledge of the term 'institutional repository'. The response from ISP4 was that *"I never heard that term before*". Then the researcher provided a detailed description of an IR to these participants.

4.3.2 Awareness of OpenUCT (Q2)

ISP1, ISP2, ISP4 and ISP6 were aware of OpenUCT existence; they knew the name but did not know it is an IR. ISP4 provided a brief description of OpenUCT as follows:

"My understanding of OpenUCT is that it holds obviously the dissertations that the students submitted".

These participants learnt about OpenUCT's existence from a librarian during presentation sessions, from a lecturer referring them to go and look at past dissertations, in an introduction session during orientation week and from a Course Convener.

For example, ISP1 said, "*I heard of it when a* [lecturer] *came to explain about research and he said that if you would like to see how the students write and how theses look you can go to OpenUCT and find past dissertations".*

ISP3 was doubtful about OpenUCT, "*I have heard the name, there was an instance when I was looking at theses from other departments, and I am not sure that I might have used OpenUCT".*

ISP5 was not aware of OpenUCT: "*I was not until you reached out to ask about this interview"* The researcher described OpenUCT to the participants.

4.3.3 Expectations of OpenUCT (Q3)

Question Q3.1, Q3.2 and Q3.3 were prepared for those who were not aware (ISP3; ISP5) of OpenUCT. Based on the description that was given to the participants about OpenUCT the participants responded to these questions as follows:

ISP3 was eager to check on OpenUCT what research has been conducted by other students in their field. *"Now that it come to my attention, I would use it as a starting point for my research, I think it would be useful to me at this point in my research where I am going to start doing data analysis to make sure that whatever progress I have made now is still relevant, useful and fits in well within my research community*". The participant also mentioned that OpenUCT would be a good starting point to check if a research topic had already been covered, especially at the beginning phase of deciding on a topic.

ISP5 was keen to use OpenUCT only "*if it has peer reviewed articles. For my research it's more important to have access to the research like UCT Primo and Google Scholar so that I can search for research papers that are peer reviewed".*

The participants expected to find the IR on the GSB website or on Google. ISP3 expected OpenUCT to be similar to Google Scholar or to GSB library website which provide various search options for keywords searches. ISP5 expected to find recently published papers produced by UCT academics and peer reviewed articles.

4.3.4. Accessing OpenUCT (Q4)

Q4.1was for ISP1, ISP2, ISP6 who indicated that they were utilising OpenUCT. Their response was that they access it via Google, the UCT website and the GSB website. ISP2 highlighted the ease of access of OpenUCT: "*What's nice is that you can easily access OpenUCT in your browser or Google…you get access immediately and you do not need to log-in*".

However, response to Q4.1 by ISP4 was that the participant has stopped utilising the IR. Response to Q4.2 was that ISP4 preferred to use the GSB Library portal where there are only theses and dissertations of the department (GSB).

4.3.5 Motivation to use OpenUCT (Q5)

The question was posed to ISP4 who was aware of OpenUCT but no longer utilising it. During the interview the participant became inspired to utilise the IR again: *"There is a possibility that in future if I want to research something on my own that requires theoretical papers then I would use it"*.

4.3.6 The purpose of utilising OpenUCT (Q6)

The data here contains responses from participants who utilise OpenUCT. This utilisation is primarily to obtain past theses and dissertations to support their research topics (ISP1, ISP2, ISP6). For example, ISP2 said, "*I am using it to help me write my dissertation…, I try to find papers that have been written for MPhil that deal with the similar topic"*.

4.3.7 Utilising OpenUCT (Q7)

This question was posed to participants who utilise OpenUCT. They do this to access theses and dissertations and use different search strategies. For example, ISP1 preferred to use keywords of the research topic while ISP2 and ISP6 preferred to use browse field by faculty or department.

4.3.8 Usability challenges (Q8)

The question was only for those participants who utilised OpenUCT. ISP2 has not encountered any challenges when searching and locating content on the IR. ISP2 said, "*I find it ok to navigate, it is quite intuitive to use OpenUCT as it has good user experience… and the homepage is divided very well, it is easy to use it."*

ISP6 indicated that it is not easy to navigate OpenUCT. *"I think initially when I started using it was a bit easier and then I think probably last year or I would say a while back in 2019 when I was using it again or actually when I tried searching again to locate the GSB department section, I found it not easy navigate the user-interface of OpenUCT, and therefore it made it difficult to find the specific sources like the thesis or dissertations that I was looking for"*

4.3.9 Benefits of OpenUCT (Q9)

Both participants who knew and did not know about OpenUCT's existence had a similar view about the IR. Some of them pointed out that it is an important resource for them, especially when they are at the beginning stage of their own research. They used or would use it to ensure that they were not duplicating already submitted research, for guidance on methodology, for a sense of the expectation and standards for a UCT dissertation, and that the references within these dissertations were often helpful as further sources. ISP2 said: "*It helps me to also identify references that I could use as well but also it gives me a guidance how somebody has written their dissertations".*

4.3.10 Expectations of students (Q10)

This question was posed to those who were aware of OpenUCT. ISP1, ISP2 and ISP6 indicated that they utilise the IR and they indicated that the IR meets their expectations and needs. For example. ISP1 said, "*I got a lot of dissertations in the field that I am interested in"*. ISP2 said *"I find what I am looking for".* ISP6 said, *"When I was able to correctly find or navigate the system".*

4.3.11 Importance of OpenUCT (Q11)

All the six participants acknowledged the benefit of having OpenUCTat UCT. They believed that showcasing the university's research outputs in OpenUCT adds value to the research community. They felt that the knowledge generated from UCT should be available both to students and to the broader public in a centralised location and it is convenient to them because it is accessible because they can utilise it without being restricted by time and space. ISP3 said, "*As OpenUCT is an accessible online platform that is the good thing because us students we would be able to access it anytime, anywhere".*

4.3.12 Recommending the IR to other students (Q12)

ISP1, ISP2 and IPS6 were very positive about recommending the repository to other students. All three saw that as a way of increasing awareness of OpenUCT so that students get to know the repository and use it for their research studies. For example, ISP2 said, *"It would be a good thing that people should be aware of because I don't think many people are aware of OpenUCT*".

4.3.13 General comments (Q13)

ISP1, ISP2, and ISP5 made comments at the end of the interview. These were generally positive and included a few suggestions about OpenUCT. These three participants highlighted the importance of the IR and the need for greater student awareness of it. ISP2 suggested that awareness could be increased by including OpenUCT when there are library orientation week sessions for the new cohorts.

ISP1 commented about access challenges of OpenUCT. ISP1 said "*Maybe I am the only one who does know how to get on OpenUCT via the UCT website".* ISP1 further commented that students are shown how to access and navigate library information databases but not OpenUCT. ISP6 raised the point about finding the IR UI difficult to navigate. This participant suggested screencast recordings to show how to navigate OpenUCT when searching for and locating content.

4.4. Presentation of data: Student observations

This section presents data collected from students through structured observations (see observation guide: Appendix F). To ensure anonymity all the participants will be referred to as OBP (observation participants). The six participants were observed as they performed set tasks on OpenUCT. These tasks were prepared to see how they navigated the UI of the repository when searching for and locating content. The data gathered includes how easy or difficult it was for the participants to perform the tasks.

4.4.1 Task 1- Accessing OpenUCT

To start with, participants were asked to access OpenUCT. The aim was to observe the participants' awareness about OpenUCT. All six participants successfully accessed the repository even though some of them were not aware of OpenUCT. OBP1, OBP4, OBP5 and OBP6 were novice users of OpenUCT while OBP2 was familiar with OpenUCT. Five participants managed to access the IR easily and quickly via Google search engine except OBP3 who used the GSB Library website which contains a link to OpenUCT.

4.4.2 Task 2- Exploring OpenUCT homepage and its Communities

This task required the participants to explore the OpenUCT homepage and its Communities. (For a screenshot of the OpenUCT homepage refer to Appendix K alternatively, it can be accessed at https://open.uct.ac.za/). OpenUCT has four Communities by which content is categorised: Research Output (RO), Theses/Dissertations (T/D), Open Educational Resources

(OER) and Other Publications (OP). All six participants did the task easily even though some of them were not sure what to expect from the Communities. They commented as follows.

OBP1said, *"From a first-time user perspective, it's not really clear what I am getting, what I should do and where I should look for information".*

OBP3 was amazed to find out that OpenUCT has other Communities which offer different publications besides theses and dissertations. On the OER Community OPB3 commented, "*Oh these are the things that are related to education, that's interesting, I didn't know that. I don't think I ever actually paid attention to the fact that there are these four Communities".* On the T/D Community OBP3 added "*This is where I come a lot because it's helpful to look at some previous theses".*

OBP4 said, *"All the Communities should "hyperlinked" with information resources that are stored there".*

OBP5 was confused by some of publication dates were not appearing fully in the RO Community page. *"I am not sure I understand what the date is written here because it's 19, 25 and then here the date is 200".*

OBP6 said*, "A brief description about OpenUCT and more visibility of the types of outputs offered in the Communities"*

When the participants were exploring each Community, they shared their views. Their comments are presented in Table 4.2.

Table 4.2 Expectations of OpenUCT Communities

	RO Community	**T/D Community**	**OER Community**	**OP Community**
OBP1	*"Things that people have written about research"*	All participants expected to find theses and dissertations written by UCT students.	*"I have no idea what it means"*	*"I don't know what to expect from there".*
OBP2	*"The research that is done at UCT by academics or Postdoc fellows".*		*"Open-source textbooks or presentations that can be used by anyone".*	*"The reports, or newsletters"*
OBP3	"*I might expect that there's some articles".*		*"Certain academic materials from other universities"*	*"I guess it's books, maybe leaflets and pamphlets that UCT...might publish"*
OBP5	*"Research projects' papers, articles, conference, or journals".*		*"I am not sure*	"*The external publication that are linked to certain topics that would be of interest to the UCT Community".*
OBP6		*"To* see *theses and dissertations but of students from other universities".*	*"Additional information in terms of sites and links that could link me to other sites to access information outside OpenUCT"*	*"UCT students alumni general publications"*

4.4.3 Task 3- Author search

The participants were asked to locate a Masters dissertation by a particular author. All six participants successfully completed the task.

OBP1, OBP3, OBP2 and OBP6 searched the author's name and surname from the main search box of the OpenUCT homepage.

OBP4 found the task somewhat challenging. They used the Theses/Dissertation Community, selected *Sub-Communities & Collections* then filtered the search by *Masters* degree. The participant used the *Browse* search feature, selected *Authors* search from the list of search options under this feature, then typed in the name and surname of the author in the *Browsing by Author* search box but yielded no results. But only by using just the surname were they able to retrieve the results and locate the dissertation.

OBP5's route was longer. From the T/D Community they used the *Browse* search feature, selected *Authors* search option from the list of search options under this feature and then typed the name and surname of the author in the *Browsing by Author* search box but no results were retrieved. The participant was not aware that the *Authors* filter cancelled out their T/D filter. They then used the hyperlinked *A-Z* author list available on this page. By clicking on the first letter that represents the author's surname, all the authors whose surname started with that letter were alphabetically displayed and the participant could scroll through to find the author linked to the dissertation.

All the participants clicked through from the search results to the dissertation itself from where they got to a page where they could download the dissertation. OBP2, OBP3, OBP4, and OBP6 downloaded the dissertation easily and quickly. On the dissertation record page, they clicked straight to the dissertation PDF link. The downloading process was a little slower for OBP1 and OBP5. As they clicked the *Download RIS* link first (found at the bottom of the dissertation record page below the Reference section). Somewhat confusingly the link downloaded the PDF to the participant's Mendeley: OBP1 said, "*It was downloaded to Mendeley, is there another download that might be somewhere*?". OBP5 first clicked the *Print* icon of the dissertation record page below *Show full item* record link and was also confused : "*No this is not it,…I can't see where you can actually download it".* However, both participants continued browsing the page until they found the download link.

4.4.4 Task 4- Title search and locating dissertation's metadata.

This task involved locating the dissertation and its metadata which included the author, the supervisor, degree, and date.

Everyone except OBP4 completed the task.

OBP1, OBP3, and OBP6 successfully completed the task easily. They began by searching the full title of the dissertation from the OpenUCT homepage main search box and they retrieved the dissertation immediately. OBP1 first searched by typing the seven keywords of the title and retrieved unexpected results without the title displaying on the page. The participant quickly changed the search approach by typing the full title and was able to locate the dissertation.

OBP2, OBP4, OBP5 were challenged by the task because the search option they used was not optimum. They began either on the OpenUCT homepage or the T/D Community using the *Browse* search feature. This option offers a variety of search options to select from. All the participants selected the *Title* search option, on the next search page that has *Browsing by Title* search box they searched the full title of the dissertation, but no results were retrieved. After the first attempt, they all repeated the search on the same search box using different search terms.

OBP2 continued to search by typing the full title within quotation marks but no results were retrieved. Then the participant tried to type the first two keywords of the title putting them within quotation marks, but this method also retrieved no results. In the final attempt the participant typed the first two keywords of the title with no quotation marks and this time the results were retrieved, and the dissertation located.

OBP4 typed the keywords of the title but retrieved no results. The participant immediately gave up searching. *"The* [title] *didn't come up. I will move to something else, and I will decide, I am not going to use this article anymore or I will contact the* [Librarian]". The participant was not willing to continue with the task.

OBP5 began the search by typing keywords in the *Browsing by Title* search box and retrieved no results. The participant complained, *"I am struggling to find it; I was busy searching through…Browsing by title* [search box] *and then you type here, the letters, it's not really helpful".* The participant repeated the search by going back to the OpenUCT homepage, then typed the first two keywords of the title in the general search box. Again, no results were

retrieved. By typing the full title in the general search box of the T/D Community the results were retrieved and the dissertation was located.

4.4.5 Task 5- Locating a PhD/Doctoral dissertation of a specific PG student.

This task required participants to locate a PhD/Doctoral dissertation from the PhD/Doctoral theses/dissertations list. All six participants found the search process for this task slow and challenging.

All the participants completed the task except OBP5. As instructed, initially they all began the task by finding the *PhD/Doctoral* theses/dissertations list. When they reached the second stage of the search process, they diverged into different searching methods.

OBP1 continued the search using the *Browse by Date* search option within the PhD/Doctoral T/D page and then they selected publication year from the publication date list available in this page but failed to locate the dissertation. Changing search method, the participant then used the *Browse* search feature sitting under All of OpenUCT section, then selected *Authors* search option which took them to the next page and a hyperlinked *A-Z* authors list. By scrolling through this list, the participant located the author plus the dissertation linked to the name.

OBP2 and OBP4 used the *Browse* search feature . They selected *Authors* which took them to the page offering the *Browsing PhD/Doctoral by Author* search box or a hyperlinked *A-Z* author list. The participants first unsuccessfully conducted an author search using the name and surname. OBP2 tried another search method by searching only for the author's surname, again unsuccessfully: *"I so much feel like this search function doesn't work because I'm putting the…*[name of the author] *and is not picking up the* [author], *that can cause some frustration with the platform if it does not go where you ask it to go to*". OBP4 tried to type only the author's surname and also failed to retrieve results, saying, "*I don't understand when I typed the author it does not come up because I know the* [author] *is on here.* Both these participants gave up at searching using this option, but they continued to scroll through the *A-Z* authors' list until they located the author and the dissertation attached to the name.

OBP3 and OBP6 searched the degree (PhD) from the general search box within the T/D Community. OBP3 filtered the search by *Publication Type* then by *Author* and got to the authors' list page. However, OBP3 did not want to go through the list to find the author. "*My instinct was to go to authors to the drop-down list… that might take a while".* Instead OBP3 decided to search the author from the OpenUCT homepage search box and therefore did not

complete the task according to the instruction. When OBP6 got to the PhD/Doctoral theses page, the participant used the *Discover* search feature, clicked on the *Date* from the listed search options under this search option, selected the relevant publication dates required and then filtered the search by *Author*. By scrolling through the results list the participant located the author plus the dissertation.

OBP5 tried different search methods but could not locate the dissertation. The participant used the T/D's Community, clicked *Sub-Communities*, selected *PhD*, then filtered the search by *Type of Degree* but could not locate the dissertation from the search results displayed. The participant then tried to use the *Discover* search feature, used the *Date* search option to select the publication dates required for the task then filtered the search by *Type of Degree* and *Date.* At this stage the participant decided to stop adding more filters and did not want to go through the search results and find the dissertation.: *"I don't want to be spending too much time looking for one person".*

4.4.6 Task 6- Locating Masters dissertations of a specific department and their supervisor.

The participants were asked to search and locate three latest Masters dissertations of a specific degree course completed at the GSB department. They also had to locate the supervisor of these dissertations. All six participants found this task challenging. .

OBP2, OBP3, OBP6 successfully completed the task but OBP1, OBP4 and OBP5 did not. While engaged in the task, some of the participants noticed that the department is available on OpenUCT. However, there were multiple subset folders of publication records for this same department because it had not been amalgamated. The total number of holding records in each were different and the name of the department had been written differently, either the full name with or without abbreviations or only abbreviated name. Participants were thus uncertain about selecting the department. They could not find the option to browse or filter by supervisor. The lengthy solution was to go through the search results and click on each dissertation to confirm the supervisor. Some of the theses selected had different supervisors so then the participants had to go back to the results list and select other theses until they found the correct supervisor.

OBP2, OBP3, OBP4 and OBP5 began the task on OpenUCT T/D Community, used the *Browse* search feature on the homepage and selected the *Department* from the list of search options listed under this feature. On the next page they used the hyperlinked *A-Z* list of

departments where they could select the Graduate School of Business or GSB department. All four participants chose to scroll through the *A-Z* list to find the department, but they found more than one record of the same department labelled 'Graduate School of Business' but with or without the abbreviation (GSB) or GSB only. All these records had a different number of outputs which confused the participants. OBP2 summed up the frustration: "*Now you see there is a problem because now I am searching by department and found GSB but there is two, there Graduate School of Business with just 22 files in it and then there is another one and in brackets GSB with 134 files in it, so actually I feel that now this is the issue that OpenUCT need to correct, it does not make sense because there are exactly the same thing. No, there is four because there is GSB then there is GSB faculty".* All the participants decided to select the link with the highest record holdings. When they reached the next stage of the search process with the option *Browsing by Department GSB* [full name], they used different search options.

OBP2 left the *Department* page to try to another option but quickly decided to come back to the page again. The participant typed the supervisor's name into the *Browsing by Department* search box within that page and retrieved the dissertations.

OBP3 sorted the search results in descending order so that the latest theses appeared at the top of the page. Finding a supervisor of the theses was also challenging for the participant. OBP3 commented: *"From this list I don't know that I will be able to find it, it only allows me to browse by time or title. This is a little bit inefficient, and I think if someone is not really dedicated might just give up because I can't browse by Supervisor."* The participant tried another route by going back to the homepage and searching for the supervisor from the general search box. Filtering the search by *Date* and *Department* the participant selected the relevant filter search options, retrieved the results, and located the dissertations: *"So, searching the name* [supervisor] *is honestly the easiest because is going find his name in the thesis".*

OBP6 searched the name of the department from the general search box and then got to a page which had a variety of search filters to select and apply. The participant filtered the search by *Department, Date* and the *Type of Degree* and selected the relevant search filter options. All three participants confirmed that the supervisor choice was correct by clicking through to each dissertation, a process which took them to the dissertation record page where they either clicked on the dissertation *pdf link* or *Show full item* record to see the information.

OBP1, OBP4 and OBP5 abandoned the task. They only managed to find the department, but they got stuck when they were using *Browsing by Department* search field. OBP1 did not know how to find the supervisor and continued to the next task. OBP4 and OBP5 did not finish the task because they could not filter the search by the supervisor, and they could not find that option anywhere in the page. OBP4 said *"I am not sure how to do that* [find the supervisor] *because it says faculty, department, it doesn't give me the sup* [Supervisor] *search option* [on the Browse] *unless I go to the thesis manually but I'm not going to do that".*

4.4.7 Task 7- Subject phrase search to locate Masters dissertations of a specific course programme

The task required participants to search for dissertations using a subject phrase search and to locate which were completed within a specific course programme.

OBP2, OBP3 and OBP6 successfully located the dissertations and identified those required for the task. OBP1, OBP4 were doubtful about the results they retrieved. OBP5 did not complete the task because the participant could not retrieve any search results.

OBP1, OBP2, OBP3, OBP4, OBP6 began the search by typing the phrase in the OpenUCT homepage or T/D Community general search box. Although these participants followed the same strategy when starting the task, they then diverged into different ways of searching. As they had already conducted the phrase search, they continued to the next stage of the search where some used search filters. Each participant did that differently.

OBP1 searched the phrase, filtered it by *Department* and *Type of Degree* then selected the degree and retrieved the search results. OBP4 filtered the search by *Department*, *Publication Type* and then *Type of degree*. Within these filters, the participants further refined the search to locate the dissertations. Although OBP1 and OBP4 applied the same search criteria they were not sure if they had retrieved what they wanted. OBP1 did not know what to do next to locate the dissertations needed for the task. OBP4 decided not to scroll through the search results and check each dissertation: "*I feel like I reached the end of the world with filters unless I clicked on each* [dissertation] *on individually, but I didn't want to click on each.*

OBP2 and OBP6 retrieved the search results from only searching the phrase and did not apply any search filters. OBP3 filtered the search only by *Type of Degree* but the participant found two files or folders of the same degree course from that filter and so was confused about which one to select. OBP3 commented "*There is two* [course degree] *here so that is confusing but*

had to make a choice; I will go with the one that has more results". All three participants identified the theses by the phrase within the title or the degree course branding (GSB, DEFIC-development Finance) on the *Image* cover page of the dissertations. OBP3 "*I can see the logo*; *I can open and verify that by looking at the records".* The participants verified that by clicking each dissertation to go to the next page where they were able to see the full record.

OBP5 took another route. On the OpenUCT homepage the participant used the *Browse* search feature then selected the *Subjects* search option listed under this feature. On the next page the participant searched the phrase from the *Browsing by Subject* search box but retrieved no results. "*I tried this one* [Browse feature], *but I think it irritates me because if you type something it doesn't really give you much".*

4.4.8 Task 8- Locating a dissertation on a specific subject.

In this task the participants were asked to search for a dissertation on the subject 'inclusive innovation' using the *Discover* search feature on the homepage. None of the six participants performed the task easily and were challenged by the time taken to locate the subject. OBP4 did not complete the task.

All the participants began the task by using the *Discover* search feature as instructed. They selected *Subjects* from the listed search options under this feature then clicked *View more.* Thereafter, they filtered by subject. They scrolled through the list of subjects provided to locate the subject they needed. While they were doing this, the participants noticed the list was not in alphabetical order. All felt discouraged about continuing with the task because of the time it would take to scroll through the list and open the next pages. They expressed their frustration clearly.

OBP1: *"This is very frustrating there is no order* [alphabetical] *on the list, I don't know maybe I am doing it wrong.*

OBP2: *"There is no search function within here to find the subject and there is over 29,000 topics; it doesn't make sense to me".*

OBP3: "*There are so many, 29,000* [results], *it's not putting these in any order. Me as a user I will abort the mission, I will just stop".*

Even though the participants did not go through the list, they continued doing the task by using other search methods. OBP1, OBP2, OBP3 and OBP6 tried another search option using the

Browse search feature. This option offered *Browsing by Subject* which contains an *A-Z* subject list. It was easy for them to use the *Browse* search feature because they were able to search within the search box or use the *A-Z* subject list. As OBP1 commented **"***I can now see, it is alphabetical which helps me".*

OBP4 and OBP5 did not complete the task. They gave up because they did not know the easy way to locate the subject from the list. OBP4 expected the subject list to be *A-Z* hyperlinked so that they could easily select the relevant letter to open the lists instead of scrolling through a long list: *"I don't know how the search works here, but I can't be searching the whole day"* (OBP5).

4.4.9 Task 9- Locating Masters dissertations using publication year.

The participants were required to locate Masters dissertations completed at the GSB between 2010-2020. OBP4 did not complete the task but the rest performed and completed the task very easily and quickly and they all successfully located the theses assigned for the task. They all began the task on the OpenUCT homepage using the *Discover* search feature then selected the *Date* search option and applied the publication dates (2010-2019) as per instruction. On the second level of the search process the participants used different search filters to locate the dissertations for those specific years.

OBP1, OBP2 OBP3 OBP5 and OP6 continued with the task and filtered by *Department*. They scrolled through the list of departments, clicking to the next pages until they found the Graduate School of Business or GSB department. OBP2 shared the following thought while scrolling through the list: "*This page again does not have the option to search within the list*".

OBP1 selected the *Publication Type* filter after refining by date, then selected *Masters* degree to locate the dissertation for those specific publication years. OBP3 began with the same search criteria; however, the participant filtered the search by selecting the *Faculty, Department* and retrieved the dissertations. OBP3 noted that "*again GSB* [department] *has multiple results, the question that I have, how many other results they are clearly different result in cases where the filter is spelt differently or has a different format?".*

OBP2 did not apply the filters and retrieved all types of publications of that specific department besides Masters dissertations.

OBP4 filtered by *Department* after refining by *Date* but was shocked to see the long list of the departments. The participant said "*It's 15,450* [list of departments] *how do I filter it, I*

don't want to go through it, I would say I am done for the research today." OBP4 was not willing to go through the list because there was no place to apply further filters and the list was not in alphabetical order. Nevertheless, the participant continued to search via the *Department* filter under *Browse* search feature on the homepage and retrieved two sets of department publication records for the same department. These had a different number of holdings in each and the participant did not open them. At this point OBP4 stopped the task.

OBP5 chose to filter the search by *Faculty (*Graduate School of Business) and retrieved publications published by faculty members of that department. OBP6 filtered the search by *Publication Type (Masters dissertation)* and *Faculty (Graduate School of Business)* and retrieved just two theses. OBP6 was not satisfied with the result but decided to move on to the next task.

4.4.10 Task 10 Locating all GSB Masters dissertations of a specific degree.

For this task, the six participants were asked to find all the dissertations in MCom in Development Finance or MPhil in Inclusive Innovation which had been completed at the GSB. All the participants completed the task although most found it challenging. The exception was OBP5 who completed it very easily by searching for the degree via the general search on the homepage.

OBP1 started by going to the T/D Community, clicked on *Sub-Communities*, and then selected *Masters*. On the next page the participant selected *Subjects* from the list of *Browse* search options. They began by scrolling through the list of subjects displayed on the page but stopped because the list was long and not in alphabetical order. The participant then tried browsing by department and by faculty but still could not find a way to locate the theses. At this point OBP1 gave up saying "*I don't know how to do this at all, I'm totally lost here*".

OBP2 initially selected the *Department* on the homepage and looked through the *A-Z* department list. The participant checked the last two words of the course degree (Development Finance) thinking they would be included on the list, but they were not. The other options that the participant used were *Browsing by Subjects and Faculty*. The participant looked through the *A-Z* list on these pages and also typed the last two words of the course degree in the search box but retrieved no results. The next attempt, which was searching within T/D Community using *Department* and *Faculty* filters, also failed.

OBP3 also browsed from the T/D Community by selecting course degree but retrieved no results. The participant also tried to search via *Sub-Communities*, *Masters* and selected the *Faculty* from the listed search options under the *Browse* search feature, not realising they were starting a new search. The participant started a new search by going back to T/D Community.

OBP4 began with T/D Communities, *Sub-Communities*, *Masters*, typed two words of the course name on the *Browsing Masters by Department* search box but retrieved no results. In the same search box, the participant typed the name of the department where the theses were completed and retrieved two search results from the same department. The participant opened the one with the highest record holdings but was not satisfied with the retrieved results and decided to start a new search on the homepage.

After struggling to locate the dissertations, all the participants repeated the search by going back to the homepage or T/D Community. They were then able to locate the dissertations by typing into the general search box either the full name of the degree (MCom in Development Finance) or the last two words of the degree (Development Finance) with or without including the name of the name of the department (GSB). However, the search results were inconsistent.

OBP6 used *Browse by Subject* and scrolled unsuccessfully down the list of subjects to find the Inclusive Innovation which is part of the degree name. Then the participant typed the name of the degree on the *Browse* search box, again with no results. The participant tried to locate the department (Graduate School of Business or GSB) using the *Browsing by Department*. On the list of departments, the participant found more than one record of the department with different labelling, either the full name (Graduate School of Business), (Graduate School of Business (GSB) and the record with only the abbreviated name (GSB). The participant was confused about which record to select. Finally, the participant tried to use the *Discover* search feature and selected *Subjects* search option listed under this feature but was unsuccessful in locating the dissertations.

OBP2 typed the last two words of the degree (Development Finance) in the general search box of the IR then applied the search filters *Type* of degree (*Masters)*, by course degree (MCom) and retrieved eight results. Because the participant did not expect such a small number of results, they felt that the total was not accurate. The participant then removed the first filter (*Masters*) . This time the results changed to a total of twenty-four theses but still the participant was not convinced: "*I felt that there were too few, it could not have been just 24,*

so feel like it was wrong because my entire class dissertations could have been sent through the IR".

OBP3 typed the abbreviated name of the department (GSB) and the degree name (MPhil) into the general search box and was able to locate the theses. The participant filtered the search by *Type of Degree* (Masters), *Department* selected the full name of the department Graduate School of Business and then filtered again by *Type of Degree* (MPhil). This participant was also not satisfied by the search results: *"Now is only ten, that can't be possible, this is not everyone".*

OBP4 typed the last two words of the course degree in the general search box then filtered by *Department* (GSB) and selected Research at GSB, filtered by *Type of Degree* (Mphil) and the theses were retrieved. "*I am not sure that these are the theses in Inclusive and Innovation because it doesn't say that".*

OBP5 and OBP6 applied the same criteria to locate the dissertations. They typed the last two words of the degree name on the general search box and filtered the search by *Type of Degree*, and then by *Department* and they located the dissertations.

4.4.11 General comments

After completing the tasks, the six participants shared their thoughts about the tasks and OpenUCT. Their comments included how they understood and followed the tasks, the lack of knowledge about access points to the IR and a few suggestions on the IR search functionality.

OBP1: *"It was really easy to understand, your structure was very easy to follow"* [referring to the tasks].

OBP2: "*I think the search function on OpenUCT can be refined, but there were few times, when I searched for certain things, I clicked View more and I had 29000 results to sift through instead there would've been a simple search function where I could search the subject within. Making sure there is only one category for a specific department, for example GSB has got four, so if should be consistent where you can choose the one GSB. I searched by faculty and then I got Faculty of Commerce, but I also have GSB. GSB is not a faculty it falls under the Faculty of Commerce. Then it will be nice to search within that for the department".*

OBP3: *"If you use the straight search function* [general search box] *is user friendly, it works quite well and also because the filter option works much better than using the Discover feature*

because … if you want to see what subjects are available you can't narrow down the search, you can't arrange in alphabetical order. You've got two different styles of filtering on the same website and for me that's a bit confusing".

OBP4: "*Only near the end that I realised if you go to search* [click on search on the OpenUCT search box] *just with nothing [no search terms] you can get all filters all these filters so that wasn't obvious. t's a bit confusing where to go to Discover browse will be nice if could be hyperlinked".*

OBP5: *"Is this* [OpenUCT] *linked to the UCT website?"*

OBP6: *"I wish you can search things alphabetically when you use Discover search field".*

4.5 Presentation of data - interview with key informant

This section presents data collected from the key informant. The interview guide is presented in Appendix I.

4.5.1 Awareness levels of GSB students of OpenUCT (Q1)

The key informant is not sure about OpenUCT awareness levels among students, particularly those at the GSB. The first reason was that their department does not deal with user information services that directly involve students. *"It is not really a client facing department, we do the curation of data for the resources that are going to be uploaded* [though] *yes, we also train, and we do the awareness".*

The IR department focuses on managing and curating UCT's scholarly outputs. Creating awareness of OpenUCT to students is expected to be done by librarians who are dealing with user services.

4.5.2 Motivation to use OpenUCT (Q2)

Various reasons that would motivate students to use OpenUCT were mentioned. Key informant pointed out that students would be motivated to utilise OpenUCT if librarians or supervisors made them aware of its existence and benefits as it stores and provide access to past theses and dissertations and other research outputs. Students could then go there and see what subjects and topics have been covered. Students would benefit from OpenUCT because they get an opportunity "*to see the gaps between what is within their field and what has not been covered"*. Looking at past students' theses could help them to formulate the title and shape their own theses.

4.5.3 Accessing OpenUCT (Q3)

According to the key informant there are various options to access OpenUCT. The repository can be accessed by students using Google Scholar or Google. Google Scholar and Google are the main access points for users, especially those who are unaware that the repository exists. Some students use this route if they have not been informed of other access points by a librarian or supervisor. OpenUCT is also accessible through the UCT library website, and students use this option if they have been shown that this is one of the ways to access the IR.

4.5.4 Utilisation of OpenUCT (Q4)

The key informant thought that Masters students would be most interested in utilising OpenUCT to look at theses and dissertations produced by other students: *"I have come across a few queries where students… would be coming to look for a thesis that has been published on OpenUCT by a previous student"*.

4.5.5 Searching and locating scholarly content on OpenUCT (Q5)

The key informant also mentioned that OpenUCT has search functions with various search options that the students can use to enhance their search experiences. For example, the homepage search box where students can search using any type of keywords or authors details or title. There are also filters that allow students to refine their search.

4.5.6 Monitoring the OpenUCT usage and search practices (Q6)

The department is not able to monitor OpenUCT usage and search practices of students because the IR is an open access database for internal and external users which does not require log-in credentials. "*To monitor and track usage of an information resource database that is possible in a database where a user can log in and his or her credentials would then provide feedback into who has searched the database"*.

4.5.7 Challenges encountered by students when utilising OpenUCT (Q7)

The IR department has received no feedback on challenges or issues that the students experience when utilising the repository. The department does not keep track of whether students are utilising OpenUCT easily or not. It is something that would require investigation.

4.5.8 Advocacy and outreach of OpenUCT (Q8)

The IR department does advocacy and outreach through the Postgraduate Office and the Research Office but only by invitation. These marketing programmes focus on Open Access Publishing in which they do not include Masters' students. "*I'm not for sure if librarians are inviting their postgraduate students, Masters and PhD's to come and join these sessions at the same time if they think that is actually high level for them, then librarians need to create a platform to invite our department to speak to their students about it*". According to the key informant, the IR department has not been invited to talk to the GSB Masters students about OpenUCT, but they have been contacted by individual students when they needed help locating specific theses or dissertations.

4.5.9 Training offered to students (Q9)

According to the key informant, the IR department only trains and facilitates workshops on OpenUCT if they are invited by the departments that are interested to know more about "*how researchers can contribute or participate in open access using the IR*". However, the librarians are expected to communicate with the IR team to arrange OpenUCT sessions for students. For the GSB students, there has not been any invitation requesting to provide session about the IR, but individual students contacted the department when they needed help locating specific theses or dissertations. During the orientation period students do get informed about library information access points where and how they can find resources, including OpenUCT.

4.5.10 Meeting the needs and expectations of students (Q10)

The key informant highlighted important facts that show that the OpenUCT is beneficial to Masters students. "*This is my perception, to some extent OpenUCT does meet the needs of students*". Theses and dissertations are deposited and archived in the repository, and as they cover a wide range of topics or subjects, they aid students writing their theses or dissertations. Students can browse the theses and dissertations section of the repository. In so doing they get the opportunity to look at past theses and dissertations within their field or discipline and look at resources and references that have been used.

4.5.11 General comments

The key informant commented on how important it is for the librarians to work together to equip one another in terms of Open Access and the utilisation of OpenUCT. The librarians offer client-facing services and so it will be advantageous for them to work collaboratively to

better serve the students as the IR department does not deal directly with the end-users of the university. Creating Masters students' awareness is essential: *"Some of the students they only know about OpenUCT when they've completed their thesis or when there is a library upload or library version which is supposed to be in the library on OpenUCT".* Therefore, librarians should improve on OpenUCT awareness and on training on how to utilise the repository.

Chapter 5: Discussion of the main findings, recommendations, and conclusion

5.1 Introduction

This chapter will discuss the findings from the data collected through the interviews and observations. Based on the discussion of the findings, recommendations will be made, and conclusions will be drawn.

5.2 Discussion of the findings

The findings are discussed and presented in response to the research questions of the study.

5.2.1 Awareness of OpenUCT

The findings of this study show that there is average awareness about the existence of OpenUCT across from all twelve students participants. Most of them appeared to be familiar with the concept of an IR; some of them provided a description of it. However, they did not all associate OpenUCT with an IR; rather, OpenUCT was just another library information resource. They knew about OpenUCT's existence from several sources, but they seemed only to register its existence at the time when they needed to use it. It seems that even if the participants do not know that OpenUCT is an IR, this would not matter that much to them as long as they are able to fulfil their needs through other information resources.

The findings showed that it was easy to access the IR using various access points. Some knew that they could access it via the UCT library website, the GSB library portal, and via search engines. The findings show that some participants view OpenUCT as one of the library resource databases that they normally use to access the information they need. Most participants were not aware of scholarly outputs besides theses and dissertations hosted in the IR but there were those who knew that they could access journal articles. While the participants were aware of the main search field on the homepage which prompts users to search in *All of OpenUCT,* they also showed awareness of the other search fields and tended to default to these.

The findings indicated that those participants who had no awareness of OpenUCT might still have heard of it or been informed about it but did not register it. Others were more engaged with the GSB portal which hosts hyperlinked lists of theses and dissertations of the department, Primo and the information databases. Awareness and lack of awareness are not

peculiar to these IR users as several studies have reported similar findings which vary from one institution to another (Pickton & Mcknight, 2006; St. Jan et al., 2011; Stanton & Liew, 2011; Abdelrahman, 2017; Saulus & Mutula, 2019; Ibrahim, Mohammed & Bawa, 2020).

According to the findings, some of the participants indicated that they were made aware of other library information resources and how to access and use them but less so about OpenUCT. The literature confirms that lack of awareness inhibits graduate students' utilisation of the IR resource (Ibrahim, Mohammed & Bawa, 2020: 445). For this study, the assumption is that lack of orientation about OpenUCT and the awareness of other information resources could be the reasons for the unawareness of the IR.

5.2.2 Expectations of OpenUCT

All participants had similar expectations of the IR. They expected easy access to the repository, to be able to navigate its UI easily and for it to have a user-friendly search functionality. They also expected to be able to obtain scholarly outputs including recent students' theses and dissertations and peer-reviewed articles. Additionally, they anticipated that each Community would be linked to its scholarly outputs providing clear evidence of the types of outputs that each offered so that users would get an accurate idea of what they should expect in terms of Community content. Lastly, they expected a general overview of the IR. According to the findings, the IR meets some of these expectations.

However, the search functionality did not meet everyone's expectations. Among these were the lack of specific search fields that the participants wanted to utilise and the lack of information which indicates that OpenUCT is an IR. There is not enough visibility of the types of outputs that the Communities offer. Since the participants in this research were dissatisfied with some aspects of the product, their experience was mixed.

5.2.3 Attitudes towards OpenUCT

Nevertheless, most participants felt positive about the IR and acknowledged its benefits. Only a few felt negative about the IR. The participants acknowledged the significant role that OpenUCT plays in the university and the value that it adds to the research community. The participants were optimistic about OpenUCT which they consider as a good source of information and more trustworthy than Google because they could obtain academic information. Those with awareness of the IR acknowledged that it has theses and dissertations

covering a wide range of subjects as well as other scholarly outputs such as journal articles. Access to other scholarly outputs was additionally beneficial to the participants. This is in line with other studies which found that students' main interest in accessing IRs is to look at other research projects that have been conducted at the institution with the purpose to enhance their own research (St. Jean et al., 2011: 31; Sembiring, 2020: 150).

While there were some negative experiences during observations, overall, the attitude towards the IR was positive. Among the factors which contributed to students' positive experiences of using IR were ease of use of the IR search functionality, finding the content the student needed and being able to look at previous dissertations for their own research purposes. The findings show that some participants will continue using the IR and they would even recommend it to their peers. Some of the participants who had no awareness of IR were interested in using it. Few participants were negative about OpenUCT.

5.2.4 Utilisation of OpenUCT

The study found that almost half of the participants make use of the repository when they need to for various research study purposes. Their primary purpose is to access ETDs although some of them also use it to access other scholarly outputs such as journal articles. Most participants search OpenUCT from Google when they want to access it. This practice is common and shown in Maha and Blustein's study (2015b: 635). Google seemed to be an adequate way to access the IR. The key informant acknowledged that Google was an alternative method to access the IR. From the findings of this study, it can be assumed that the participants are likely to access OpenUCT via Google and that they do not normally use the other access points even if they knew the IR's URL. This study's findings echo a study by St. Jean et al. (2011:30) which found that students use various search strategies, such as author, title, and subject searches, to search for content from their repository,

Knowing about the existence of the IR does not guarantee utilisation by users (Watson, 2007: 5). The findings show that not all the participants use OpenUCT, not just due to lack of awareness but because the users had specific needs which the repository does not meet, and which could be met elsewhere.

5.2.5 Usability challenges of OpenUCT

Usability is one of the factors that influences the user experience of a product, service, or system, and it is essential for good UX (Schmidt & Etches, 2014: 3). In terms of searching, retrieving, and discovering content, some of the participants found OpenUCT difficult to navigate. They could not easily find what they needed. Links to open the pdf or full text of a dissertation were not easily identifiable; for example, the filtered lists within the *Browse* feature provided were difficult to use. Another difficulty was the confusion caused by search options that appearing on the same such as *Browse by* search options and *Browse* feature search options which were the same (e.g., PhD /Doctoral page under the Communities & Collections) and the presentation of records which were not always in alphabetical order (e.g., the list of authors and subjects under *Discover* feature and departments Filter). Further challenges encountered by participants were lack of some search options within the *Filter* and the *Browse* search feature. They were also confused by duplication of records within the search results. The participants could not easily identify types of scholarly outputs offered through the Communities when browsing the homepage. Most of the participants did not have a positive experience when performing observation tasks and some of them also found the general search field difficult to use. An online system that users interact with independently is expected to be "easy to use" (Morville, 2004, para. 5). Based on the findings it can be concluded that some of the search functionality of OpenUCT does not allow users to navigate the repository efficiently and effectively.

5.3 Recommendations

In the light of the research findings, this study makes the following recommendations.

5.3.1 Improving awareness of OpenUCT

According to the key informant, the library is the front line for user information services so it should be more proactive and work collaboratively with OpenUCT to organise advocacy sessions that would create more awareness to students about the IR's existence, purpose, benefits, and use. This is in line with the recommendation in the study of Abdelrahman (2017: 107). More library orientation sessions on information resources, training sessions on how to access and utilise them and one-on-one or group sessions would raise awareness of and facilitate greater student use of OpenUCT's considerable academic resources.

5.3.2 Managing expectations of OpenUCT

It is recommended that there should be more visibility about the scholarly outputs that each Community offers so that students can have a better idea about them. As the Communities are shown on the homepage, the types of scholarly outputs that they are providing can also be listed on this page.

As the students did not all know that OpenUCT is an IR and and/or did not know about the concept at all, it is recommended that there should be a term 'institutional repository' next to the name OpenUCT and introductory information that indicates that it is an IR or a link that contains such information. It would increase the students' knowledge and understanding of what OpenUCT is and its purpose. This would also help to manage the expectations of the students.

5.3.3 Improving utilisation of OpenUCT

It is recommended that the library staff offer training on how best to navigate and use OpenUCT. This training could be delivered both through face-to-face sessions but also via screencast recordings or tutorial videos. These will educate and guide students on how to navigate the IR interface when searching for content. Ibrahim, Mohammed, and Bawa (2020: 446) support this. They recommend workshop training to equip the students with the skills on how to search for content efficiently and effectively and also Do-It-Yourself (DIY) short videos that would guide students on how to navigate repository themselves.

The IR should be made more prominent by adding the OpenUCT URL to each of the GSB theses and dissertations' web pages which are specifically created for each course programme. This would help to increase student awareness. Hopefully student utilisation would increase as students would be reminded of another platform where they can access all UCT dissertations, and other outputs as well.

5.3.4 Improving the user experience of OpenUCT

Despite the usability issues uncovered in the observations, data collected from the key informant revealed that their department is not aware of any challenges encountered by students because there has been no reporting or feedback on that issue. It is recommended that the OpenUCT user interface should be evaluated to improve its search functionality for ease of use. It would be appropriate to consider looking at certain search features that do not accommodate the students' search abilities. This would enhance the effectiveness of the IR

and increase its utilisation and user satisfaction. St. Jean et al. (2011: 40) explain that enhancing an IR's search functionality is crucial to increasing ease-of-use which is key to retaining end-users. Users who have a positive experience are likely to recommend the repository to others.

This study makes the following specific recommendations from the observations conducted:

- The *Browse* search feature should be revisited to test some of its category search options such as the title and the author.
- The list of items under certain features should be evaluated for example .

    a) Lists of departments, subjects, authors should be arranged in alphabetical order within the *Discover* and *Filter* search features.
    b) To eliminate confusion to students the duplicated records of the Graduate School of Business can be amalgamated in one folder together with the theses & dissertations completed in the department so that it can be easier to locate and select this department when it is required.
    c) Search box or A-Z link should be added in those search options that contained a list of items. For example, for the author, subject, department within the *Browse* and *Filter* feature. The list within these search options should be organised in alphabetical order.
    d) It is recommended that the supervisor should be added to the category search options of the *Browse* and *Filter* features so that the student can be able to find the supervisor.
    e) The supervisor should be added to the thesis/dissertation record page so that students easily access the supervisor without clicking on *Show Full item* link.
    f) The appearance of the *Browse* search category search options on the results page of a Sub-Community (PhD/Doctoral) within Communities and Collections should be hidden to eliminate confusion of students thinking that it is part of the page, and they can use these search options to refine the search at hand.

- There should be a course programme next to each type of degree because that would help students to immediately identify a degree and course when they need to use this filter. For example, MCom in Development Finance or MPhil in Inclusive Innovation.

5.4 Limitations of the study and future research

Limitations refer to 'weakness or deficiency' in the research study (Collins & Hussey, 2009: 125).

The study aimed to explore the experiences of Masters students when they interact with the IR. As this was a qualitative study, a small sample of UCT Masters students from the GSB was used to collect data. Such a small sample size is not considered representative for the entire population of students so the findings of the current study could not be generalised to the entire population of UCT students.

Data had to be collected between December 2020 and March 2021 when the country was in various stages of lockdown due to the COVID-19 pandemic. This was a period when the university staff and students were working and studying remotely, therefore, physical interaction with the participants was not allowed. The researcher was obliged to do interviews and observations remotely. Face-to-face interaction and engagement with the participants were missing. However, the researcher made use of virtual communication platforms (MS Teams or Zoom) to meet the participants and collect data. Due to poor network and internet connectivity issues that some participants experienced, some of the sessions were rescheduled which delayed the data collection process. One participant requested a telephonic interview because there was no data or Wi-Fi to connect on MS Teams or Zoom. Because it was an interview which just requires listening, the researcher agreed to do it telephonically and was able to do audio-recording and captured notes during the session.

Although the researcher experienced these limitations, they did not prevent the data collection process from proceeding. In some ways, collecting data remotely was an advantage because the researcher had greater flexibility in arranging to connect with the participants.

As this study collected data from a small sample, future research can use a larger sample size including more postgraduate students, both Masters and PhDs, from different departments. The current study focused on students' awareness of, expectations of and attitudes towards the IR and on its utilisation. The heuristic evaluation could also be conducted by UX experts who can assess the system's interface from their perspective.

5.5 Summary and conclusion

This study sought to explore the user experience of OpenUCT, the IR of the University of Cape Town. The study investigated awareness of, expectations of, and attitudes of PG Masters students towards OpenUCT and the utilisation of the IR by these students.

The study has shown that the effective use of OpenUCT by students relies on awareness about its existence, meeting the expectations of users, positive attitudes towards it and ease of use when interacting with it. Some of the participants in the study clearly acknowledged the benefits of the IR, such as providing access to content (ETDs). The participants were positive about IR content as they indicated its usefulness in meeting their research needs and the credibility of the information. These factors represent good UX. The lack of awareness among some participants however indicates that there is a need for advocacy and outreach programmes for PG students, particularly those at the level of a Masters degree in order for the IR to be used to fuller potential. Many of the students' expectations were met by the IR but its search functionality was not to their satisfaction. It is therefore necessary to improve the usability of the IR so that its content is more easily accessible.

Several studies cited in this study have shown that application of UX as an evaluation method to examine the library's electronic resources from the user perspective significantly contributes to enhancing the utilisation of a service and positively impacts on student experiences. It is hoped that this research will contribute in the same way to OpenUCT and its users.

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Appendix A: Interview invitation for students

Research topic: User experience of the OpenUCT institutional repository

Invitation email to students – request for an interview

Subject: Invitation to participate in research

Dear student,

I am undertaking research towards a master's degree in Library and Information Studies at the University of Cape Town (UCT). My study objective is to explore the experiences of Graduate School of Business master's students of OpenUCT (an institutional repository of UCT) by investigating their awareness of, expectations of, attitudes towards, and utilisation of the platform. The research is conducted under the supervision of Ms Michelle Kahn, a Lecturer in the Department of Knowledge & Information Stewardship.

As part of my data collection, I will be conducting interviews with students, and I would like to invite you to participate in one of them. The interview will be for the purpose of gaining your views about OpenUCT, whether you use it or not. The interview will be conducted via a virtual meeting platform of your choice (e.g., MS Teams, Skype, Zoom, Vidyo) at a time agreeable to both of us and should take no longer than 1 hour. Participation in this study is voluntarily, and should you wish to withdraw from the study you may do so at any time without prejudice. With your permission, the interview will be recorded for the researcher to use during data analysis. The information gathered will be treated with confidentiality, presented anonymously and recordings, transcripts and notes will be discarded after completion of the study.

I will ask you to complete the consent form (see attached), which will indicate your agreement to participate in the research study. Your participation in this study will be greatly appreciated.

If you have any questions before participating, do not hesitate to contact me.

Yours Sincerely
Hanoria Kalimashe (KLMHAN001)
KLMHAN001@myuct.ac.za
Supervisor:
Michelle Kahn
michelle.kahn@uct.ac.za

Appendix B: Interview consent form for students

Consent form for semi-structured interview: students

University of Cape Town
Faculty of Humanities

Title of research

User experience of the OpenUCT institutional repository

Name of researcher:

Hanoria Kalimashe

Department:

Knowledge & Information Stewardship

Telephone:

078 131 0919 or 021 406 1331

Email:

KLMHAN001@myuct.ac.za

Name of participant:

Nature of the research:

The research investigates the user experience of OpenUCT (an institutional repository of UCT). It seeks to explore the experiences of Graduate School of Business master's students of OpenUCT by investigating their awareness of, expectations of, attitudes towards, and utilisation of the platform. The study will highlight the value of OpenUCT as an information resource service that provides access to UCT's scholarly outputs and will identify the factors that influence the experiences of students which may affect the use of OpenUCT.

Participant's involvement

What's involved: The research involves interviewing master's students busy with research at the Graduate School of Business at UCT. The interview will be for the purpose of gaining insight into your awareness of, attitude towards and use of OpenUCT. The interview should take no longer than 1 hour. With your permission, the interview will be recorded. The information gathered will be presented anonymously and confidentiality is ensured. Recordings, transcripts and notes will be discarded after completion of the study. The interview will be conducted through one of the virtual meeting platforms at an agreeable time to both of us. **Risks**: There are no risks to you in taking part in this research. **Benefits**: There are no personal benefits that you will get for participating in this research. Your participation is important because the information that will be gathered from you will be useful for research. **Costs**: Costs include those of connectivity and your time.

Please indicate by ticking the box if you agree with the consent below

☐ I agree to participate in this study.

☐ I have read this consent form and the information it contains and had the opportunity to ask questions about them.

☐ I agree to my responses being used for education and research on condition my privacy is respected, subject to the following:

- I understand that I will not be personally identifiable.
- I understand that I am under no obligation to take part in this study.
- I understand I have the right to withdraw from this study at any stage.
- I understand that this research will be available via the institutional repository and might be published in an academic journal.

☐ I agree to this interview being recorded for purposes of data analysis. The recording will not be shared and will be discarded once the study is finished.

Signature of participant:

Name of participant:

Signature of researcher:

Date: ___

Appendix C: Interview guide for students

Interview questions

Q 1. Do you know what an institutional repository is?

1.1 If yes- Please describe it.

1.2 If no- the researcher will provide a full description of what an institutional repository is.

Q 2. Are you aware of OpenUCT (UCT's institutional repository)? (*awareness)*

2.1 If yes- How did you find out about its existence? Proceed to Q 4.

2.2 If no- the researcher will describe OpenUCT and then proceed to Q 3.

Q 3. Now that you are aware of OpenUCT … *(attitude)*

3.1 Would you consider using OpenUCT for your studies? Please elaborate.

3.2 Where would you expect to access OpenUCT?

3.3 What would be your expectations of OpenUCT?

Then proceed to Q 11.

Q 4. Do you use OpenUCT? *(utilisation)*

4.1 If yes- how do you access OpenUCT? Then proceed to Q 6.

4.2 If no- please provide the reason why you do not use OpenUCT. Then proceed to Q 5.

Q 5. You have said that you do not use OpenUCT. What would motivate you to use it? *(attitude). Then proceed to Q 11.*

Q 6. For what purpose do you use OpenUCT*? (utilisation)*

Q 7. How do you search for or find information on OpenUCT? *(utilisation)*

Q 8. Can you highlight a good experience and a bad experience you had when retrieving information on OpenUCT? *(challenges)* Please elaborate.

Q 9. You are writing a master's dissertation. How beneficial do you find OpenUCT to your studies? *(attitude)* Please elaborate.

Q 10. With your experience of using OpenUCT, does OpenUCT meet your expectations? *(expectations)* Please elaborate.

Q 11. In your opinion, how important is having an online information service like OpenUCT? *(attitude)* Please elaborate.

Q 12. From your experience of OpenUCT or what you know about it, would you recommend OpenUCT to other students? *(attitude)* Please elaborate.

Q 13. Do you have any general comments or suggestions about your experience of OpenUCT?

Thank you for your time.

Length of interview _____

Appendix D: Observation invitation for students

Research topic: User experience of the OpenUCT institutional repository

Invitation email to students – request for observation

Subject: Invitation to participate in research

Dear student,

I am undertaking research towards a master's degree in Library and Information Studies at the University of Cape Town (UCT). My study objective is to explore the experiences of Graduate School of Business master's students of OpenUCT (an institutional repository of UCT) by investigating their awareness of, expectations of, attitudes towards, and utilisation of the platform. The research is conducted under the supervision of Ms Michelle Kahn, a Lecturer in the Department of Knowledge & Information Stewardship.

As part of my data collection, I will be conducting structured observations with students, and I would like to invite you to participate in one of them. During the observation, you will be requested to perform tasks of searching, locating and retrieving information on OpenUCT. I will provide instructions for you to follow when performing the tasks. We will follow a 'think-aloud protocol' which encourages you to voice your thoughts and express your feelings while you are performing the tasks. The observation will be conducted via a virtual meeting platform where you can share your screen with me at a time agreeable to both of us and should take approximately 1 hour. Participation in this study is voluntarily, and should you wish to withdraw from the study you may do so at any time without prejudice. With your permission, the session will be recorded for the researcher to use during data analysis. The information gathered will be treated with confidentiality, presented anonymously and recordings, transcripts and notes will be discarded after completion of the study.

I will ask you to complete the consent form (see attached), which will indicate your agreement to participate in the research study. Your participation in this study will be greatly appreciated.

If you have any questions before participating, do not hesitate to contact me.

Yours Sincerely
Hanoria Kalimashe (KLMHAN001)
KLMHAN001@myuct.ac.za

Supervisor:
Michelle Kahn
michelle.kahn@uct.ac.za

Appendix E: Observation consent form for students

Consent form for structured observation

University of Cape Town
Faculty of Humanities

Title of research

User experience of the OpenUCT institutional repository

Name of researcher:

Hanoria Kalimashe

Department:

Knowledge & Information Stewardship

Telephone:

078 131 0919 or 021 406 1331

Email:

KLMHAN001@myuct.ac.za

Name of participant

Nature of the research:

The research investigates the user experience of OpenUCT (an institutional repository of UCT). It seeks to explore the experiences of Graduate School of Business master's students of OpenUCT by investigating their awareness of, expectations of, attitudes towards, and utilisation of the platform. The study will highlight the value of OpenUCT as an information resource service that provides access to UCT's scholarly outputs and will identify the factors that influence the experiences of students which may affect the use of OpenUCT.

Participant's involvement

What's involved: The research involves structured observation of master's students busy with research at the Graduate School of Business at UCT. The observation will involve tasks that you will be requested to perform for searching, locating, and retrieving information on OpenUCT. I will provide instructions for you to follow when performing the tasks. We will follow a 'think-aloud protocol' which encourages you to voice your thoughts and express your feelings while you are performing the tasks. The observation should take approximately 1 hour. With your permission, the observation will be recorded to capture your thoughts and the performance of the tasks. The information gathered will be treated with confidentiality, presented anonymously and recordings, transcripts and notes will be discarded after completion of the study. Observation will be conducted through one of the virtual meeting platforms with screen sharing and at an agreeable time to both of us. **Risks:** There are no risks to you in taking part in this research. **Benefits:** There are no personal benefits that you will get for participating in this research. Your participation is important because the information that will be gathered from you will be useful for research. **Costs:** Costs include those of connectivity and your time

Please indicate by ticking the box if you agree with the consent below

☐ I agree to participate in this study.

☐ I have read this consent form and the information it contains and had the opportunity to ask questions about them.

☐ I agree to my responses being used for education and research on condition my privacy is respected, subject to the following:

- I understand that I will not be personally identifiable.
- I understand that I am under no obligation to take part in this study.
- I understand I have the right to withdraw from this study at any stage.
- I understand that this research will be available via the institutional repository and might be published in an academic journal.

☐ I agree to this observation being recorded for purposes of data analysis. The recording will not be shared and will be discarded once the study is finished.

Signature of participant:

Name of participant:

Signature of researcher:

Date: __

Appendix F: Observation guide for students

Tasks	**Observations**	**Comments of the researcher**
Task One	**The OpenUCT homepage**- the task will explore the ease of accessing the OpenUCT homepage	
Please access the **OpenUCT homepage**.	The researcher will observe and hear how and with what level of ease the user can access the OpenUCT homepage and the route taken to find it.	
Task Two	**Explore four communities-** this observation task is about viewing OpenUCT communities and to understand the user's expectation of each of the communities.	
• Now that you are on the OpenUCT homepage, there are four main sections or communities that are being shown. o *Research Output* o *Theses/Dissertations* o *Open Education Resources* o *Other Publications* • Before you open each of these communities, what are your expectations of each section?	The researcher will observe and hear what the user expects from each of the communities.	

• Please open and explore the **four main communities** Did you find the sections helpful?		
Task three	**Author search-** this task is about retrieving a specific thesis/dissertation by searching by author and accessing the full text of the thesis/dissertation.	
• Find a master's thesis/dissertation written by **Lifa Majali** and **download the PDF**.	The researcher will observe and hear how and with what level of ease the user can locate and retrieve the thesis/dissertation.	
Task Four	**Title search-** the task is about retrieving a thesis/dissertation searching by title to locate its metadata.	
• Go back to the OpenUCT **homepage** • Search for the master's thesis/dissertation by using the title: ***The spaces in-between: An appreciative inquiry into cross-boundary collaborative design for social innovations***	The researcher will observe and hear how and with what level of ease the user can locate and retrieve the thesis/dissertation and its metadata.	

• Without downloading the thesis/dissertation, find the **author, the supervisor, degree awarded, date** it was completed and **faculty & department** where it was completed.		
Task Five	**Publication Type**- the task is about retrieving a PhD/Doctoral thesis/dissertation.	
• Please find the **PhD/Doctoral** theses/dissertations list. • Once you find the PhD/Doctoral list, please find Kurt April's thesis which was completed in 2004.	The researcher will observe and hear how and with what level of ease the user can retrieve the thesis/dissertation.	
Task Six	**Department and supervisor**- the task is about locating and retrieving theses/dissertations supervised in a specific department by a specific supervisor.	

• Please find the **three** latest theses/dissertations completed at the **UCT Graduate School of Business.** • Now find those supervised by **Latif Alhassan.**	The researcher will observe and hear how and with what level of ease the user can locate and retrieve the thesis/dissertations when the department & supervisor is known.	
Task Seven	**Phrase search-** the task is about retrieving theses/dissertations on a subject using keywords and then filtering the search. The participant is required to do a phrase search.	
Please find theses/dissertations on "**financial inclusion"** • Do the search as a phrase ***"financial inclusion"*** in order to find the theses/dissertations that will have the exact phrase you are searching for. • From your results list, can you identify 3 **MCom** theses done in the **Development Finance Centre (DEFIC)** at	The researcher will observe and hear how and with what level of ease the user can retrieve results and then filter the search according to criteria.	

the UCT Graduate School of Business (GSB)?		
Task Eight	**Subject search-** the task is about finding theses/dissertations categorised in a specific subject area.	

• Go back to the homepage
• Use the **Discover filter** on the homepage
  o Find the subject **Inclusive innovation**
  o How many results did you find?
	The researcher will observe and hear how and with what level of ease the user can find the content on this subject.	

Task Nine	**Publication date-** the task is about finding theses/dissertations completed between specific years using the publication date filter.	
• Go back to the homepage • Use the **Discover filter** on the homepage. • Find theses/dissertations that were completed between **2010-2020** at GSB.	The researcher will observe and hear with what level of ease the user can find results.	
Task Ten	**Course programme-** the task is about finding theses/dissertations done for a specific course programme.	
The GSB offers an **MPhil programme in Inclusive**		

Innovation and an MCom in Development Finance. • Go back to the homepage • Find the theses/dissertations that were completed within the **MPhil** or **MCom** programmes	The researcher will observe and hear with what level of ease the user can find these results.	

Do you have any general comments or suggestions about your user experience of OpenUCT?

Thank you for your time.

Length of observation session _____

Appendix G: Interview invitation to the key informant

Research topic: User experience of the OpenUCT institutional repository

Invitation email to key informant – request for an interview

Subject: Invitation to participate in research

Dear Librarian,

I am undertaking research towards a master's degree in Library and Information Studies at the University of Cape Town (UCT). My study objective is to explore the experiences of Graduate School of Business master's students of OpenUCT by investigating their awareness of, expectations of, attitudes towards, and utilisation of the platform. The research is conducted under the supervision of Ms Michelle Kahn, a Lecturer in the Department of Knowledge & Information Stewardship.

As part of my data collection, I would like to conduct an interview with you for the purpose of gaining your view about OpenUCT to complement the interviews and observations I will be conducting with master's students to meet the research objectives of my study. The interview will be conducted via a virtual meeting platform of your choice at a time agreeable to both of us and should take no longer than 1 hour. Participation in this study is voluntarily, and should you wish to withdraw from the study you may do so at any time without prejudice. With your permission, the interview will be recorded for the researcher to use during data analysis. The information gathered will be presented anonymously and recordings, transcripts and notes will be discarded after completion of the study.

I will ask you to complete the consent form (see attached), which will indicate your agreement to participate in the research study. Your participation in this study will be greatly appreciated.

If you have any questions before participating, do not hesitate to contact me.

Yours Sincerely
Hanoria Kalimashe (KLMHAN001)
KLMHAN001@myuct.ac.za

Supervisor:
Michelle Kahn
michelle.kahn@uct.ac.za

Appendix H: Interview consent form for key informant

Consent form for semi-structured interview: key informant

University of Cape Town
Faculty of Humanities

Title of research

User experience of the OpenUCT institutional repository

Name of researcher:

Hanoria Kalimashe

Department:

Knowledge & Information Stewardship

Telephone:

078131 0919 or 021 406 1331

Email:

KLMHAN001@myuct.ac.za

Name of participant:

Nature of the research:

The research investigates the user experience of OpenUCT. It seeks to explore the experiences of Graduate School of Business master's students of OpenUCT by investigating their awareness of, expectations of, attitudes towards, and utilisation of the platform. The study will highlight the value of OpenUCT as an information resource service that provides access to UCT's scholarly outputs and will identify the factors that influence the experiences of students which may affect the use of OpenUCT.

Participant's involvement

What's involved: The research involves interviewing a key informant from UCT Libraries' Scholarly Communication & Research Department, which is responsible for the OpenUCT platform. The interview will be for the purpose of gaining your views about OpenUCT to complement the data gathered from interviews with and observations of master's students to meet the study's research objectives. The interview should take no longer than 1 hour. With your permission, the interview will be recorded. The information gathered will be presented anonymously, though confidentiality cannot necessarily be ensured because of the size of your department. Recordings, transcripts, and notes will be discarded after completion of the study. The interview will be conducted through one of the virtual meeting platforms at an agreeable time to both of us. **Risks**: There are no risks to you in taking part in this research. **Benefits**: There are no personal benefits that you will get for participating in this research. Your participation is important because the information that will be gathered from you will be useful for research. **Costs**: Costs include those of connectivity and your time.

Please indicate by ticking the box if you agree with the consent below

☐ I agree to participate in this study.

☐ I have read this consent form and the information it contains and had the opportunity to ask questions about them.

☐ I agree to my responses being used for education and research on condition my privacy is respected, subject to the following:

- I understand that I may be personally identifiable in the study.
- I understand that I am under no obligation to take part in this study.
- I understand I have the right to withdraw from this study at any stage.
- I understand that this research will be available via the institutional repository and might be published in an academic journal.

☐ I agree to this interview being recorded for purposes of data analysis. The recording will not be shared and will be discarded once the study is finished.

Signature of participant:

Name of participant:

Signature of researcher:

Date: _

Appendix I: Interview guide for key informant

Q 1. Reflecting on the above statement, can you describe the advocacy and outreach efforts to create awareness and promote the use of OpenUCT to UCT students?

Q 2. Is there any training offered to students in relation to the use of OpenUCT?
2.1 If yes, please elaborate on the kind of training.
2.2 If no, please elaborate on why.

Q 3. What metrics do you use to monitor OpenUCT usage and how does this usage information influence developments of the IR?

Q 4. Information needs and information seeking behaviours of users change over the course of their research journey. At times, they will need to search in a more sophisticated way, for example, applying search filters to narrow or refine search results.
4.1 Do you revisit OpenUCT to see if there is a need to make changes to search features?

Q 5. Maha and Blustein (2015b) highlighted the importance of evaluating an institutional repository in order to uncover the usability challenges or issues that affect the use of the institutional repository with the purpose to understand and meet the needs of end-users.

5.1 Regarding the use of OpenUCT, how do you elicit and receive feedback from students about the usability of OpenUCT and what do you do about this information?

5.2 Are you aware of any challenges or issues that UCT students experience with using OpenUCT? *Please elaborate*

5.3 Do you have any plans for expanding your current method/s of gathering feedback on the usability of OpenUCT?

Q 6. IR systems require periodical updates to keep up with the ever-changing technology.

6.1 Are there any updates that you are considering for the back end (system functionality) and/or front-end (graphical user interface) of OpenUCT?

6.1.1 If yes, can you tell me a little about how you plan on implementing them?

6.2.1 If no, how will OpenUCT keep up with ever-changing IR technology in the future?

Thank you for your time.

Yours Sincerely

Hanoria Kalimashe (KLMHAN001)

KLMHAN001@myuct.ac.za

Supervisor: Michelle Kahn

michelle.kahn@uct.ac.za

Appendix J: Uniform Resource Locator for online consent form

http://gsblive.uct.ac.za/SurveyNetAd/TakeSurvey.aspx?PageNumber=1&SurveyID=l4K39m8M&Preview=true

Appendix K: OpenUCT homepage

Appendix L: Ethics approval letter

Department of Knowledge and Information Stewardship
Faculty of Humanities
University of Cape Town
Upper Campus

Private Bag X1, RONDEBOSCH, 7701 South Africa
Level 6 Hlanganani, The Chancellor Oppenheimer Library
Tel: +27 (0) 21 650 4546
E-mail: dkis@uct.ac.za
Internet: www.dkis.uct.ac.za

Ref no.: UCTDKIS2020-05-04 13 November 2020

Ethics approval for master's study

Dear Hanoria Kalimashe

We are pleased to inform you that ethical clearance has been granted by the Ethics Review Committee of the Department of Knowledge and Information Stewardship on behalf of the Humanities Faculty of the University of Cape Town for your master's study entitled: *User experience of the OpenUCT institutional repository.*

As a next step, please ensure that you obtain approval from UCT Department of Student Affairs (DSA) and Human Resources (HR) before commencing with your data collection.

We wish you well with your data collection and the completion of your study.

Yours sincerely,

Andiswa Mfengu
Chair, Department (DKIS) Research Ethics Committee