

The adoption and use of social media in academic libraries: A comparative study between universities in Belgium and South Africa

Marion Lucille Williams



Supervisor **Prof. dr. Alexander Dhoest**

Thesis submitted for the degree of Doctor of Social Sciences
Faculty of Social Sciences | Department of Communication Studies | Antwerp, 2023

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**Universiteit
Antwerpen**

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defended by:**

Marion Lucille Williams

Supervisor: Prof. dr. Alexander Dhoest

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TABLE OF CONTENTS

DEDICATION	5
ACKNOWLEDGEMENTS	6
PARTICIPATING ACADEMIC LIBRARIES	9
CHAPTER ONE: INTRODUCTION AND BACKGROUND	10
1. Introduction	10
1.2. Background of the study	13
1.3. Challenges faced by library professionals	15
1.4. Web 2.0 and Library 2.0 technologies	18
1.5. Social media	21
1.5.1. Facebook	21
1.5.2. Twitter	22
1.6. Problem statement	25
1.7. Societal relevance: The digital divide between the Global North and the Global South ..	26
1.8. Aim of the study	29
1.9. Proposed theoretical frameworks, research objectives- and questions	30
1.9.1. Study 1	32
1.9.2. Study 2	34
1.9.2.1. Diffusion of Innovations Theory	34
1.9.2.2. Challenges Faced by Library Professionals	34
1.9.3. Study 3	35
1.9.3.1. Social capital	35
1.9.4. Study 4	37
1.10. Summary of chapters	37

1.10.1. Chapter 3, Study 1: The adoption of Web 2.0 technologies in academic libraries: A comparative exploration	39
1.10.2. Chapter 4, Study 2: social media, diffusion of innovations, morale and digital inequality: A case study at the University of Limpopo Libraries, South Africa	39
1.10.3. Chapter 5, Study 3: Library as a place: Evaluating physical and virtual spaces. A case study of two academic libraries	40
1.10.4. Chapter 6 Study 4: Students’ perceptions of the adoption and use of social media in academic libraries: A UTAUT study	40
CHAPTER TWO: RESEARCH METHODOLOGY	42
2.1. Introduction	42
2.2. Research Approach: Qualitative interviews	42
2.3. Data Collection	43
2.3.1. Interview procedure	45
2.4. Sampling	47
2.5. Data analysis	51
CHAPTER THREE: STUDY 1	54
The adoption of Web 2.0 technologies in academic libraries: A comparative exploration	54
CHAPTER FOUR: STUDY 2	77
Social media, diffusion of innovations, morale, and digital inequality: A case study at the University of Limpopo Libraries, South Africa	77
CHAPTER FIVE: STUDY 3	98
Library as place: Evaluating physical and virtual spaces. A case study of two academic libraries	98
CHAPTER SIX: STUDY 4	117
Students’ perceptions of the adoption and use of social media in academic libraries: A UTAUT study	117
CHAPTER SEVEN: DISCUSSION AND CONCLUSION	136

7.1 Introduction.....	136
7.2 Sub- research questions (SRQ)	138
7.3 Research design and methods	139
7.4 Discussion of main themes	139
7.4.1 Technology.....	139
7.4.2 Privacy	140
7.4.3 Barriers.....	140
7.4.4 Digital divide, and benefits of social media.....	140
7.5 Findings.....	141
7.5.1 Summary of the main findings.....	144
7.6 Implications of the research	149
7.7 Recommendations for UL Libraries: Adoption of social media.....	154
7.8 Limitations of the study	155
7.9 Suggestions for further research	156
7.10 Research contributions.....	158
7.11 Conclusion	158
REFERENCES	163
ABSTRACT.....	192
DUTCH-LANGUAGE ABSTRACT	194
AUTHOR CONTRIBUTIONS.....	196

LIST OF TABLES, FIGURE AND APPENDICES

TABLES

Table 1: Overview of library professionals and responding institutions: Belgium.....	48
Table 2: Overview of library professionals and responding institutions: South Africa...	49
Table 3: Overview of students: University of Antwerp	50
Table 4: Overview of students: University of Limpopo	51

FIGURES

Figure 1: The Library 2.0 model	33
Figure 2: UTAUT model.....	121
Figure 3a: University of Limpopo Libraries' Facebook page	161
Figure 3b: University of Limpopo Libraries' Facebook page.....	161

APPENDICES

Appendix 1: Interview questions: Adopters.....	197
Appendix 2: Interview questions: Non-adopter	200
Appendix 3: Interview guide: University of Antwerp (Students)	203
Appendix 4: Interview guide: University of Limpopo (Students).....	206

DEDICATION

This thesis is dedicated to my late parents, Benjamin and Mary Williams. Dad and Mom, you have shown me how to push the boundaries, never to accept no for an answer and to press on. You have always been instrumental in my life, education came first and you ensured to that. Thank you for your love and encouragement as this milestone would not have been possible without your leadership.

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Press on, I did, because ...

I had a dream ...



LIST OF ACRONYMS

DHET	Department of Higher Education and Training
DOI	Diffusion of Innovations
ICT	Information Communications Technology
IT	Information Technology
LIS	Library and Information Services
UA	University of Antwerp
UL	University of Limpopo
UTAUT	Unified Theory of Acceptance and Use of Technology
WWW	World Wide Web

PARTICIPATING ACADEMIC LIBRARIES

CPUTL	Cape Peninsula University of Technology Libraries
GUL	Gauteng University Libraries
ULL	University of Limpopo Libraries
UAL	University of Antwerp Libraries
CULL	Catholic University of Leuven Libraries
FUBL	Free University of Brussels Libraries

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1. Introduction

In recent years, academic libraries have seen tremendous developments in the use of the Internet, digital technologies, and social media such as Facebook and Twitter to disseminate information. Both Facebook and Twitter are known for their potential to reach a larger population of students. Therefore, focusing on these two platforms can provide valuable information on the development of social media usage and adoption. Information and communications technologies (ICTs) have revolutionised the way information is delivered to information users in the 21st century (Abukari, 2019). Onuoha and Obialor (2015: 15) studied the impact of information technology on modern librarianship related to the convergence of more than one communication technology such as computers, laptops, information networks, smartphones, and other related devices to form a new trend. The rapid evolution of social media platforms has revolutionised the way information is disseminated and used. Facebook and Twitter have become powerful tools for communication, creating an avenue for individuals and organisations to connect, share, and exchange information across the world. In the context of libraries, these platforms have proven to be valuable in assisting users to access information and resources quickly and efficiently. By using Facebook and Twitter as dissemination tools, libraries can create a unified communication system that facilitates faster dissemination of information to library users. Libraries can use Facebook and Twitter to develop unified communication systems that help faster information dissemination and support library users.

A rapidly changing technological environment requires library professionals to keep up with new technologies so that they can provide better service to patrons. Therefore, the purpose of this study was to examine how academic libraries in Belgium and South Africa use social media. In particular, the study examined how library professionals have adopted Facebook and Twitter to disseminate information such as library rules, events and training interventions to students, staff, and other library patrons. Social media platforms have become essential tools to engage with target audiences and promote library services. Students have been encouraged to visit libraries by using group posts, pages, and other profiles created by librarians. Furthermore, social media has been used to promote books and obtain feedback from students. The importance of digital media and social media has been stressed in previous studies regarding the modernisation of academic libraries and the enhancement of information retrieval and dissemination. The purpose of this study was to examine issues such as social media adoption and usage, staff

morale, library use as a physical space, and students' perceptions of social media use.

In the context of a library setting, information and communication technologies (ICTs) are required for a modern library and information professionals should address the problems and challenges raised in building and maintaining a digital web-based library (Oguche et al., 2017: 4). ICTs encompass audio-visual, software, storage, communications, and other devices. Internet in this context refers to the interconnected networks including Local Area Network (LAN) and Wide Area Network (WAN) that help in the transfer and dissemination of information to and from the libraries (Oguche et al., 2017: 4). ICTs and the Internet facilitate the usage and adoption of social media in libraries. Social media sites are platforms for online social interactions, which in this case is not exclusively accessible by library professionals. Social media in the broader sense collectively means various websites, applications and platforms focused on communications, community-oriented inputs, online interactions, information or content sharing, and various collaborations. Social media foster innovation in rural communities (Onitsuka, 2019: 2) and have made it possible to transmit messages and data across the world and sparsely populated rural areas in minutes, defying the odds of technology. In academic libraries, ICTs have brought a new awareness to the conduct of academic library services (Chiparausha et al., 2022). This development has heightened the need for academic libraries to utilise their potential to improve their service delivery to the student community.

Academic libraries across the globe are using innovative ways to improve the dissemination of information to attract and reach a wider range of students (Harrison et al., 2017: 250). The potential uses of technology in the library can be broadly categorised into three typologies: 1) digital resource management, 2) enhancing user experience, and 3) supporting research and learning. In the first category, technology can be used for tasks such as digitising library collections, managing electronic resources, and implementing integrated library systems (Bentil et al., 2022). The second category includes technologies such as mobile apps (Mishra et al., 2017), which can enhance the user experience by providing personalised and interactive services. Finally, the third category encompasses technologies that support research and learning, such as online databases, digital archives, and e-learning platforms (Tait et al., 2016). By leveraging these typologies, libraries can adapt to the changing needs of their users and provide new and innovative services.

By adopting social media technologies to improve communication, to better suit the needs of students. The role of learning with technology is evolving rapidly, and so too is the role for academic librarians. There are many distinct roles of technology in this context. Technology is changing the way library information is presented to students. For example, library services or opening and closing hours can be effectively informed through social media. Another important role of technology has been to facilitate better interactions between library professionals and students. Social media has become an integral part of academic libraries' operations due to the changing role of these libraries. The use of social media by academic libraries has already been embraced as a means of providing better service to their users. Integrating these services is driven by the need to enhance library services and to engage library users. Research in the field of tertiary education and academic libraries has highlighted that technology plays a pivotal role in expanding and sharing information widely (Kekana and Kheswa, 2020: 8). New technologies are providing library professionals and students with innovative tools to support education and share information. Using social media is one such new and innovative technology that has the potential to take information sharing and document delivery to greater heights. The adoption of social media into academic library environments holds the promise to create and enhance social connections, especially for the socio-economically challenged. It can increase knowledge accessibility.

Social media can be effectively used to facilitate meaningful discussions and debates on a wide range of library books. Social media can be beneficial in promoting library services and in connecting libraries with their users, regardless of location (Taha, 2017: 1). Universities are continuously changing methods for reaching student populations. Innovative library professionals are tracking usage patterns for social media platforms like Facebook and Twitter among students. This provides libraries with more information about the best suitable social media platforms for interacting with the students (Margolis and Treptow, 2017), in order to reach the student population on platforms that are familiar to them. The role of library professionals needs to be tailored to utilise social media to further enhance their careers. Thus, it needs to be recognised that library professionals' roles are dynamically changing and should incorporate the optimal utilisation of social media (Akporhonor and Fasae, 2020: 15). Social media platforms are important tools for academic libraries as these platforms offer benefits for library professionals to connect and interact with students. These are communication methods to complement the traditional print notifications, using social media, computers, smartphones, and the Internet. The adoption of innovative technologies depends on the necessary budgets to

cover the high costs of ICT infrastructure, reliable bandwidth, and adequate, skilled and competent technologically savvy staff. The utilisation of new technologies like social media provides an opportunity for academic libraries to alleviate most if not all of these challenges by effectively utilising the potential of these services.

Social media has the potential to alleviate challenges such as disadvantaged socio-economic conditions and to improve social capital as well as the delivery of information. Academic libraries are investing in the adoption of such services, investing a lot in them as they try to realise the benefits tied to the adoption of new technologies and increase their digital visibility, hence giving rise to the greater demand for the use of social media. According to Bakare (2017: 4) academic libraries that stagnate in the adoption of social media technologies may find it difficult to remain relevant within a context of the competitive and changing need for appropriate resources. Social media afford library professionals and students an opportunity to create, share and distribute content (Chawinga and Zinn, 2016: 2).

1.2. Background of the study

In academic libraries, where information access, engagement, and communication play a key role, social media platforms have gained significant traction (Freed, 2023: 154; Mensah and Onyancha, 2021: 7). An in-depth analysis is presented in the present study, which focuses on a comparative analysis of academic libraries in two unique academic settings, the University of Antwerp in Belgium, and the University of Limpopo in South Africa. There are significant differences between academic libraries in Belgium and South Africa in terms of social equality and technological advancement. With abundant funding allocated to academic libraries in Belgium, which has a comprehensive social welfare system, such libraries are able to provide a wide range of resources. However, academic libraries in South Africa, a country characterised by social disparities, face significant obstacles due to limited financial resources and inequitable educational opportunities. The existing differences are further emphasised by disparities in technology and digital infrastructure. In comparing an academic library in Belgium with one in South Africa, noticeable differences emerge, particularly in terms of internet accessibility. Academic libraries in Belgium often enjoy established infrastructures, ample funding, and state-of-the-art technology resources. Most of these libraries have high-speed internet service, which enables students and researchers to easily access online resources, conduct research, and engage in collaborative projects. In contrast, academic libraries in South Africa frequently face limited financial resources, inadequate infrastructure, and inequitable access to reliable internet

connections. The presence of a digital divide poses a significant obstacle to students and scholars, impeding their ability to actively participate in global academic discourse. Therefore, doing a comparative examination of these academic libraries provides insights not only into social equality differences but also into the impact of technology on either perpetuating or mitigating these disparities. It is the aim of this comparative study to examine how social media have been used in academic libraries and uncover the underlying methods, obstacles, and consequences of the ever-evolving connection between digital platforms and information acquisition. Furthermore, this study contributes to the global discussion on social media integration in universities and sheds light on the unique circumstances of academic libraries (Mensah and Onyancha, 2021; Mogale and Bopape 2023; Nguyen 2023).

1.2.1. University of Limpopo

The University of Limpopo registered 22 298 students in 2022 in various programmes offered by four faculties, Health Sciences, Humanities, Management and Law and Science and Agriculture (HEDA, 2022). First entering students are mainly those who have passed grade 12 and the majority stem from rural areas. First entry students find themselves in a new environment where they are expected to acquaint themselves with the geographical environment, overall university, and campus life. They are expected to manage their own study schedules, attend orientation and information and communication technology (ICT) programmes to familiarise themselves with electronic mail usage and Blackboard usage. Apart from training interventions offered, students encounter challenges such as learning through an English medium institution and accessing information with the use of technology as well as employing skills such as information literacy offered by the library to access and download information for academic purposes.

1.2.2. University of Antwerp

The roots of the University of Antwerp date back to 1852 when two institutions, the State School of Economics and the Saint Ignatius School of Economics were granted university status by the Belgian government in the 1960s and became the Faculties of Economic Science. In the 1970s a third institution was founded to offer postgraduate and PhD courses. All three institutions began operating as a confederation under the banner of the University of Antwerp and became the university it is known today in 2003. The University of Antwerp is home to over 20 000 students of whom approximately 18% come from overseas with 132 countries represented through the student body. The University of Antwerp's staff complement consists of over

5000 employees, including 3000 researchers and almost 700 professors. Various programmes are offered by nine faculties, including Economics, Engineering, Arts, Design Sciences, Law, Medicine, Pharmaceutical, Social Sciences and Veterinary and Biomedical Sciences. The university offers 33 undergraduate degree programmes, 69 master's programmes and 18 master-after-master programmes. Thirty-one programmes are taught in English and the university publishes approximately 3650 scientific publications annually (University of Antwerp, 2023).

1.3. Challenges faced by library professionals

Infrastructure and modern technology play a vital role in ensuring students' academic success and experiential learning. Unfortunately, the University of Limpopo Libraries (ULL) faced several challenges, such as inadequate infrastructure resources, outdated books, dilapidated building structures, insufficient financial resources, and a shortage of qualified professional library staff, including a number of vacant positions, which hindered its ability to support students effectively.

Both students and library professionals face challenges on a daily basis. Students were not technologically equipped to conduct their academic work electronically, as library personnel observed during training intervention sessions. It is expected of students to conduct research online, submit assignments online through the Blackboard Management System, use electronic resources, use a reference management system such as RefWorks and the use of Turnitin to detect plagiarism. These all become too overwhelming for a first entering student and the library accommodates them by gradually introducing the use of print and electronic resources to students. Although every effort is made to reach students, some of the students are left devoid due to their lack of digital skills because of their backgrounds and schools attended where these were never introduced as some are only exposed to technology at tertiary education level. The University of Limpopo Libraries try to have a 100% orientation attendance but could only manage to reach 66% in 2020 in a contact setting and 75.3% in 2021 in a virtual setting (Library and Information Services, 2022). Other challenges faced when acquiring information for academic purposes are insufficient funding to procure stationery, furniture, and equipment to meet educational needs, which are an annual struggle and led to poor service delivery and staff making do with available resources. Remote connectivity to electronic resources remains a challenge. In addition, the University of Limpopo Libraries preferred contact-training interventions as opposed to online interventions. This is another aspect of the tardy progress to

transform the university library to a digital library to assist both undergraduate- and postgraduate students.

The University of Limpopo Libraries became marginalised over a number of years due to poor funding and a lack of marketing the library's service and resources. The lack of transparency has led to library staff feeling left out on decision-making and not knowing in advance changes that will be affected. Not keeping up with technological requirements and staying current with policy changes has caused low staff morale. The ULL faces certain challenges to effectively transform the library to a 21st century functional library which include poor funding, transparency regarding budgetary expenditure, poor service delivery by not answering emails or returning telephone calls of users, poor report writing for external review panels and the lack of execution to produce online videos of database training interventions.

Library professionals should embrace a wide range of skills to adopt and manage the Library and Information Specialists' environment and should be ready to move with the changing environment of digital technology and globalised information sharing. However, this was not evident, as students have protested for a new and modern library (Student Representative Council, 2018). Their concerns included plans to extend the library, given the fact that there is not enough space for registered students; more and updated print books instead of electronic books should be procured; the loan period for short loan books should be increased from 2 hours to overnight and extra print books per title should be procured to allow more students to access material which will eliminate books circulated for short periods; operational hours to increase to 24-hours during examination periods; computers in the library are slow or non-functional and should be upgraded or replaced with up to date software; staff were labelled incompetent and never available to assist; air-conditioning throughout the library was not working and bad odours were present; the postgraduate room was too small, hot and stuffy; student lockers at the entrance of the library were broken and non-lockable and needed to be replaced; more marketing and training interventions to equip students to use electronic resources independently. The broader picture also involves infrastructural damage and poor maintenance of buildings. The Library and Information Services (LIS) submitted a risk assessment report outlining building structures and facilities required to ensure a safe and conducive environment is provided to students. The report highlighted the lack of maintenance, upgrading common areas and the lack of ensuring that students' needs are met. The upgrade of the library was meant to make the University of Limpopo Libraries responsive to current and anticipated future student

needs. The report details the extent at which library facilities have deteriorated due to the lack of proper maintenance and monitoring, and funds required to upgrade current facilities. The status of the university library buildings and facilities are appalling and fatal for all its users, staff, and students (Danster, 2018: 2). In the 2018 report, one of the risks identified was the crack in the concrete ceiling where the building was joined, which has caused a gradual drop in the building. During the October 2022 examination period a contractor was appointed to assess the situation and stabilise the ceiling but the matter remains pending. However, despite this environmental risk, the University of Limpopo Libraries remain committed to supporting and accommodating students. The libraries offer a range of learning spaces, including areas equipped with Wi-Fi connectivity and computer laboratories with desktops specifically for postgraduate students. Although the undergraduate computer laboratory is currently out of use awaiting new desktop computers, students still have access to a variety of electronic and print resources, as well as study spaces and small seminar rooms for group discussions at ULL. The University of Limpopo Libraries are always heavily used. In 2019, the library implemented a trial for the 24-hour operational hours to provide a conducive study area for students who might not have the necessary facilities at home. The ULL began the 24-hour operations to accommodate the midyear examinations from 21 May 2019 where the extended hours were operational for three weeks until 07 June 2019. The service was a pilot initiative and has shown overwhelming statistics through its hourly headcounts. The library in support of academic activities provided a 3-shift system (shift 1, 00:00 – 07:30; shift 2, 07:30 – 16:00 and shift 3, 16:00 – 00:00), instead of the usual two-shifts (07:30 – 16:00 and 16:00 – 02:00). A proposal outlining transportation, security and cleaning services was approved by the University's executive management. The proposal favoured all library employees, permanent and on contract, with the option of volunteering to work shift 1. These shifts were managed by two staff members, one shift supervisor and one support staff member. Library staff members who worked the first shift, offered limited services, with the exception of electronic services, where a full service was available to ensure students achieve their educational potential to enable them to have maximum time, space and needed information for their studies.

As mentioned above, the purpose of the academic library services is to support teaching, learning, and research in a higher education institution (University of Limpopo, 2021: 3). One of the services for student support at academic libraries is user services, which include the circulation desk, information desk and interlibrary loans services. Services such as technical services and acquisitions and collection development are sections operating behind the scenes

but ensures to it that electronic resources and print resources are available for the end-user. Social media services are of key importance to academic libraries as it can be used to reach a vast number of students simultaneously. Academic libraries at higher education institutions (HEIs) have already started integrating social media as communication media as it has many benefits and caters to the requirements of the 21st century student needs. While the adoption of social media is gaining popularity around the globe, this has also been the case in Europe and South Africa. Rabatseta et al. (2021: 22) found that various types of social media were adopted by academic libraries in South Africa. The top four most used platforms are Facebook (83%), Twitter (63%), YouTube (56%) followed by Library Blogs (46%). Other emerging social platforms include WhatsApp (23%), Skype (23%), Dropbox (21%) and Instagram (15%).

A global survey submitted to twenty-five universities the authors (Ali et al., 2018) found that the most widely used social media platforms are Facebook (88%), Twitter (76%), YouTube (68%), Instagram (40%) and LinkedIn (36%). A study by Edewor et al. (2016: 299) raised concerns about poor infrastructure and unavailability of internet access in some academic libraries in Africa. They also identified infrastructural issues such as lack of maintenance, unreliable power supply, lack of staff training and interventions. Furthermore, Mogale (2019: 115) have identified the factors that were influencing the slow adoption rate of social media at the University of Limpopo Libraries including strict control measures such as restricted access during core business hours, due to a lack of training on social media platforms, library professionals are not well versed with these platforms for academic use.

Before explaining how the current study will investigate these issues, the next sections will first provide a short introduction to the digital and social media at the heart of this research.

1.4. Web 2.0 and Library 2.0 technologies

Web 2.0 is a broad term used for the shift in internet usage from the earlier times. Web 2.0 has been referred to as “technology”, “second generation web-based tools and services and as a community-driven online platform” (Tella and Akinboro, 2015: 295). Web applications are software that run on different web servers. They are distinguished from other computer-based software as they do not run on the local operating systems of personal computer devices. Thus, web applications can only be accessed through web browsers, which necessitates an active internet connection. Web 2.0 refers to the present situation of the Internet that has more user-generated content. Moreover, the current state of the Internet provides more usability for all

end-users (Tripathi and Kumar, 2010: 109). Users presently have more control over their internet activity than they had in the previous version of the web. The concept of Web 2.0 refers to rich web applications, web-oriented architecture, and user-generated content while web technologies provide user interaction as noted by Pal (2012: 108). It is related to the development of social media and social networking sites (SNSs). Websites have become much more dynamic and interconnected, producing “online communities” and making it even easier to share information (Pal, 2012: 108).

The shift in internet usage has been made possible due to the emergence and rapid development of social media. Social networking sites and social media sites have enabled users to interact more independently and effectively on the Internet. There are now more online blogs, articles, groups, forums, image sharing sites, content sharing sites and other user generated aspects on the Internet. Social media has been greatly related to the development of Web 2.0 from its earlier version. It has dominated internet usage over the last few years. It has provided users with more freedom to pursue their interests and develop their own communications and networking channels. However, other applications have also been developed and used in Web 2.0. Most times these new web applications have been connected to social media and further optimised.

In the academic context, Bal and Bicen (2018: 180) note that Web 2.0 technologies provide a user-centred approach which supports learning and helps students to communicate with lecturing staff more easily. In addition, they found that students use Web 2.0 technologies on a regular basis to actively participate in academic activities and that it played an effective role in acquiring new information and keeping abreast with new developments in their field of study (Bal and Bicen, 2018: 180). Concurring with Pal (2012), Bal and Bicen (2018: 178-180) state that students can access information by searching the Internet and sharing information easily, contributing to their academic success. Live-streamed, as well as recorded lessons, provide additional advantages in the use of Web 2.0 technologies in higher education. To Ayooluwa (2016: 2), it is inescapable to use Web 2.0 technologies in the 21st century as it is increasingly enriching the learning environments by enhancing collaboration, communication, and interaction among students and academic libraries.

The relationship between Web 2.0 and social media is strong since many of the features and technologies associated with Web 2.0 are fundamental to the functioning of social media

platforms. For example, user-generated content is a key feature of both Web 2.0 and social media, as it allows users to create and share content with others. Furthermore, Web 2.0 applications have been adapted to create social media platforms that enable users to interact with one another and share information based on the interactive nature of Web 2.0 applications. Thus, Web 2.0 paved the way for the development of social media, which has revolutionised the way people communicate, share information, and interact online.

In developed countries, Web 2.0 technologies are used in academic libraries and have helped as a supportive technology to reach a wider audience. Despite the fact that Web 2.0 technologies have the potential to disrupt academic activities, they have aided a more responsive learning process, as Ayooluwa declares (2016: 2). The activities of academic libraries are now focused on Web 2.0, which has become a central component of the digital library environment. With the start of the term “Web 2.0”, other terms were created, such as Library 2.0, which refers to the integration of Web 2.0 technologies in a library environment. Library 2.0 is a model for a modernised form of library services that reflects the transition within the library in the way that services are delivered to students. The focus is on user-centred changes and participation in the creation of content. This concept of Library 2.0 borrows aspects from Web 2.0 and follows some of the same underlying philosophies, which includes online services and an increasing flow of information from the user back to the library, which refers to the integration of Web 2.0 technologies in a library environment to enhance library services (Lwoga: 2013: 288). In other words, Library 2.0 is a model that empowers library users through participatory and user-driven services. Library 2.0 seeks to improve services to current library users, while also reaching out to potential library users. Casey and Savastinuk (2007: 61) state that the 21st century library is participatory as libraries are more concerned about meeting the information needs of its users than just being custodians of information hubs that are not utilised. Kwanya et al. (2011: 146) explain the shift from static library service points to virtual models, which take the library services to the users. Academic libraries have heeded the call. A study by Adetayo and Williams-Ilemobola (2021: 15) revealed that academic librarians adopted Library 2.0 for communicating purposes, information dissemination, reference services, posting of resources, new book arrivals, library news, and promoting library services. The findings by Mensah and Onyancha (2022: 326) revealed reasons for adoption based on ease of use to communicate daily activities to students which have helped with access and provision of services through Library 2.0. The authors found that academic librarians would use Library 2.0 technologies as an information hub to provide and disseminate information pertaining to library services and

resources to students.

1.5. Social media

Social media originated as a personal tool that people used for the purpose of interacting with friends and family, but which was later adopted by businesses that wanted to take advantage of a popular new communication method to reach out to customers (Ojo, 2015: 72). Onwuchekwa, 2015: 126) defines social media as a tool used to interact, collaborate, connect, create, comment, view, share, rate, discover and exchange user generated content and contribute to patrons' knowledge creation and their sharing digital content. Onwuchekwa (p. 126) defines social media as web-based and mobile applications that enable individuals and organisations to communicate, engage, and share information on platforms like Facebook and Twitter. Social Networking Sites (SNS) provide a way to establish personal or business networks (Ojo, 2015: 72). Academic libraries also benefit from networking on SNS to stay informed about the latest developments in the LIS field.

SNS are structured around different types of media, such as video, articles, or web pages, which users can publish, rate, or comment on. Tella and Akinboro (2015: 280) describe SNS as a collection of user-generated web pages where information is shared. The use of social networking platforms such as Facebook and Twitter are prevalent among many people for the purpose of establishing online identities, exchanging information, and establishing relationships (Kronqvist-Berg, 2014).

1.5.1. Facebook

Facebook is the most popular social networking site with over 2.94 billion active users as of 31 March 2022 that use it on a daily basis (Facebook, 2022: 1). Facebook is a platform for social connections where members are invited to share information with friends, from photography to biographical information or connect on a personal level (Howard, et al., 2018: 12). Facebook provides an advertisement or marketing platform for academic libraries to attract and engage with potential users (p. 15). Mark Zuckerberg, a Harvard University in Cambridge, Massachusetts student at the time was interested to see how people and technology connect (Weil, 2015: 14). It was this interest that led to the development of "Thefacebook" which was launched for university students in 2004 from his Harvard dorm room (Weil, 2015: 20). In 2005 the social network dropped the word "the" from its name and became Facebook (p. 20). In 2006, Facebook opened the platform to everyone from thirteen years of age with a valid email address.

With the growth of the Internet, along with the Facebook brand came the audience of teenagers which were a socially active group (Kirkpatrick, 2010: 216). More than 4000 organisations joined within a two-week period (Waters, et al., 2009: 102).

So too, academic libraries were beginning to network with students through Facebook and creating an online presence for the library. Academic libraries were able to share content and communicate with students on a virtual platform. In the early stages of Facebook, Charnigo and Barnett-Ellis (2007: 23) studied the use of Facebook among 126 academic librarians and one specific library, Houston Cole Library at Jacksonville State University noticed an increase in library usage as students were flocking to the library to scan and crop pictures to be uploaded onto Facebook and using library computers to access Facebook. This was quickly known as the “Facebook addiction”. Usage among students was noticeable when the Internet was down, and withdrawal symptoms were observed. When the Jacksonville State University registered the library on Facebook, the library suddenly became a popular hangout for students in search of computers to access Facebook (p. 23). Charnigo and Barnett-Ellis (2007: 31) confirmed that some academic librarians viewed the buzz as a trend that would soon go away as it was not considered to form part of scholarly activities (p. 31); while others saw the potential to use Facebook as a professional platform and to promote library services (p. 24). In recent years, Facebook is still used as a platform to re-establish connections and interact with students irrespective of geographical location (Uwandu and Osuji, 2022: 3). Academic libraries are encouraged to adopt Facebook as it can be used for rendering services such as reference services, marketing of information, products and services, dissemination of information and user education (Uwandu and Osuji, 2022: 7).

1.5.2. Twitter

Twitter was launched in 2006 as a communication tool with the fundamentals of blogging, instant short messages (Del Bosque et al. 2012: 199). Twitter takes into consideration the broader spectrum of mass communication, allowing to build relationships among followers. Twitter is a microblogging service, where users are allowed to post short messages, known as tweets, that are no longer than 280 characters, which has doubled from 140 in 2017 (Khalil et al., 2022: 347). Twitter has more than 350 million active users who generate 500 million tweets every day (Khalil et al., 2022: 347).

Hashtags assist in the ability to retrieve information and to follow trends or when referring to

specific content (Buarki and Alkhateeb, 2018: 286). A hashtag is a specific name for a tag in Twitter, which is derived from the symbol “#” (p. 287). Attaching the symbol “#” in front of any word or phrase without any spaces or punctuation is enough to turn it into a clickable link (Ben-Lhachemi and Nfaoui, 2018: 8). Twitter hashtags are used to link to other tweets and allows followers to easily follow topics that interest them (Ben-Lhachemi and Nfaoui, 2018: 8). Hashtags allow for following and commenting on images and videos, which can also be “liked” and reposted (Buarki and Alkhateebk, 2018: 299).

Twitter offers quick and efficient tools for information sharing which provides a fast-paced platform as feeds can move very quickly with old posts being pushed down when new information is posted (Del Bosque et al., 2012: 200). Vassilakaki and Garoufallou (2015: 795) concur, stating that Twitter promotes interaction and sharing experiences in real time. Another advantage is the “direct messaging” where a message can be sent to one user and no one else can see the content, which ensures the privacy of conversations while remaining in the Twitter environment (Del Bosque et al., 2012: 200). Vassilakaki and Garoufallou (2015: 801) encouraged academic libraries to focus their efforts in developing guidelines for librarians, as well as for students, regarding accessing and using information on emerging social networking sites such as Twitter.

In the context of academic libraries, library professionals have shown interest in using Twitter and it has become useful in the LIS profession. After the launch of Twitter in 2006, several academic libraries adopted Twitter and started experimenting with profiles as an outreach tool to share library information and library events, resources and links to students (Aharony, 2010: 333). Al-Daihani and AlAwadhi (2015: 1013) hold the thought that Twitter has become one of the most popular social media platforms used by academic libraries to engage with students and build relationships. Their study highlighted how Twitter has become a major platform for academic libraries to attract students and to build a rapport with current followers as the online presence has changed the relationships between the academic libraries and students. Twitter has produced new opportunities for academic libraries in creation, promotion, storage of information and dissemination of information as academic libraries have undergone change in technological adoption and advancement (Del Bosque et al., 2012: 210). These authors state that academic libraries could use Twitter for the purpose of information sharing and networking with students. It can also be used to attract students and to reach a wider spectrum of clientele and to share library specific information, such as promoting services or introducing library

professionals to students as first-hand liaisons and contacts and distributing breaking news.

According to Kim et al., (2012: 1) academic libraries have posted a variety of information for students on Twitter and they studied students' participation with the dissemination of information. Twitter uses an option called retweets which ranges from retweeting posts or links, which supports the concept of transparency and disseminating information to additional people (p. 1). The more a tweet is retweeted, the more chances of it reaching more people and reaching a wider audience. They found that a retweet network was active among university organisations, students, librarians, information professionals, local organisations, publishers and professional organisations (Kim et al., 2012: 2). Academic libraries observed the practices of retweets, replies, mentions, adoption of hashtags and sharing of links. With the adoption of Twitter, academic libraries used it to assist with sharing training initiatives, links to orientation videos and as an engagement tool to create student participation. Academic libraries can share photos or videos of developments in the library to provide a visual account of developments (Buarki and Alkhateeb, 2018: 286) and make posts more personal. Linking Twitter to academic libraries in a professional context relies on the administrator to ensure that posts are verified, and credible information is shared with students. As a result, there is a growing need for academic libraries to adopt new roles to live up to student's expectations for innovative ways of communication and access to information (Vassilakaki and Garoufallou, 2015: 804). Del Bosque et al. (2012: 211) suggest that the use of Twitter by academic libraries provides an exciting instance of how academic libraries introduce innovative technology into everyday practices to reach and effectively interact with library users, by sharing basic information and resources, conversing with patrons, and providing assistance in a quick, yet useful way.

Al-Daihani and AlAwadhi (2015: 1008) showed that academic libraries share news and announcements, library collections, library services, and provide a variety of library news and information. Their research suggested that academic libraries use Twitter in the digital environment to move away from a static information delivery environment to a more dynamic and interactive one to be used as a medium of communication (Al-Daihani and AlAwadhi 2015: 1013).

To conclude, it is important to note that library associations also strongly embrace social media. Library associations are professional bodies that promote the development of the library movement and information science and strive for better provision of library services as well as

advancement of the profession, qualifications, training, workshops, conferences, scholarly publications, dynamic leadership in transforming, developing and sustaining library and information services (Hussain, 2015: 151; Library and Information Association of South Africa, 2022). Hussain (2015: 152) examined 188 websites of library associations and found that 115 professional bodies were active members of social media platforms, which is 61.17% of the total amount surveyed. This indicates that having a social media presence (on Facebook and/or Twitter) is important for library associations, I draw a final statement along with the discussion of having a social media presence it is clear from library associations that having a profile on either Facebook and/or Twitter it is accordingly noted that social media which presents an optimistic picture of library associations as they are keeping abreast with the changing technological environment in their strategic guidance for academic libraries. As social media platforms are adopted by academic libraries to equip librarians, social media administrators are proactive in their readiness toward technology adoption.

1.6. Problem statement

The integration of social media within the academic library setting has generated considerable discussion (Freed, 2023; Mensah and Onyanacha, 2021; Nguyen, 2023). Incorporating social media platforms into library services has the potential to enhance interaction, communication, and dissemination of library resources among users (Anwar and Zhiwei, 2019; Rabatseta et al., 2021).

Furthermore, given the prevalence of social media in students' lives, integration of these platforms has the potential to cultivate a learning environment that is both familiar and cohesive (Ansari and Khan, 2020: 2). At present, libraries have shown a tendency to use innovative and nascent technologies, such as Facebook and Twitter, in order to enhance their services (Kenchakkanavar, 2015: 169; Mnzava, 2021; Nguyen, 2023). However, academic libraries face challenges in keeping up with this ever-changing environment and implementing these tools effectively, which can hinder their adoption (Magoi et al., 2019). Using a comparative approach, this study examines the rapid adoption and usage of social media in academic libraries in Belgium and South Africa. Social media has the potential to enhance communication, engagement, and information distribution; however, its smooth integration into the academic library setting remains a matter of ongoing discussion. An analysis of methods, difficulties, and repercussions associated with social media is undertaken in this study. By examining various approaches and their respective outcomes, this study provides valuable insights into maximising

the use of social media in academic libraries. The ultimate goal is to improve the overall library user experience in specific geographical contexts.

1.7. Societal relevance: The digital divide between the Global North and the Global South

Besides contributing to scientific knowledge, this research also aims to investigate aspects of societal relevance through addressing issues such as digital inequality and the potential of social media to create social capital. Social capital reduces the digital divide and allows students to create and maintain social relationships (Ramsey, 2016: 333). The societal relevance of the adoption and use of social media addressed in this study underlines the need to explore the factors that may influence the adoption and use of social media to increase social capital in academic libraries. Furthermore, based on innovative technologies like Facebook and Twitter as a medium of communication and staff development, a key objective of this thesis is to build upon innovation and the use of social media to contribute to social capital.

Access to digital technologies is still unevenly distributed across the globe. One of the most important digital divides is the socio-economic and political division that exists between the wealthy developed countries known as the Global North and the poorer developed countries known as the Global South. Nyahodza (2016: 8) defines digital divides as gaps existing due to the lack of access to information infrastructure and skills that compromisesocio-economic and socio-political equality. Digital platforms have become integral to many everyday activities for people across the globe (Koskinen et al., 2019: 319). Academic libraries are also challenged to meet the demands of students, as expectations shift towards remote access to library services, but in Africa, such challenges are exacerbated by the legacy of the digital divide (Nyahodza, 2016).

Research in the Global North highlights the importance of social media in the context of academic libraries. For instance, Alvanoudi and Vozana (2019: 5) examined social media usage at Greek academic libraries, finding that Facebook and Twitter were the most popular social media platforms. They cited promotion, advertising, and reference services as the main reasons for social media usage. Participating academic libraries in this study reported the monitoring of new trends, staff, and time constraints for social media management as major challenges. Similarly, Rehman (2019) researched social media for student engagement at two New Zealand academic libraries, analysing Facebook posts created for student engagement. As a result of their

visibility on Facebook and frequent posts, they recorded an increase in comments (p. 34). Rehman guards against using social media as “just another information feeding device which results in one-way communication rather than an interaction with students” to retain the effectiveness of the message (p.44). In this research social capital provides a platform for examining the transformations that academic libraries are undergoing by becoming more socially supportive and receptive of students’ needs in terms of physical and electronic resources including library space conducive for learning, teaching, and research. The use of social media as a platform provides users with information in a similar manner to that of traditional sources of information, such as books, journals, and databases. In this context, academic libraries utilise social media platforms such as Facebook, Twitter, and Instagram in order to share information with students and engage with them. Therefore, social media can be seen as an “information feeding device” that enables academic libraries to reach their users where they are, rather than waiting for them to come to the library's physical or virtual space.

Ramsey (2016) noted that the Science and Engineering Library at the University of California in Los Angeles provides users seamless access to on-site and world-wide information services and supports the delivery of information with a creative internal network and material resources. Furthermore, she stated: “by making concerted efforts to connect people to people as well as to more standard library resources such as instruction, databases and books, academic libraries can strengthen their students’ ability to successfully achieve their educational goals”. (Ramsey, 2016: 330)

However, access to digital resources is not always equal in the Global North. Concerning the role of ICT in academic libraries to diminish digital inequality, Maceviciute (2018: 402) revealed that those who need digital resources most, acquire the lowest benefits from them. Researching academic libraries in Lithuania, she looked at ways to not only attract members to libraries but also help them to increase information skills and benefits from the use of digital resources. Furthermore, the author notes that these academic libraries maintain digital access to their scholarly published research.

In the Global South, digital inequalities are much more prominent. This is mostly due to the income inequities that are prevalent in the region (Ragnedda and Gladkova, 2020: 17). In the case of South Africa, the unequal distribution of technological resources and access to virtual platforms is a stark reminder of the past, i.e., the apartheid era of inequality. According to

Ocholla (2017: 3), a bleak picture was painted by Pallo Jordan, Minister of Arts and Culture in South Africa, announcing 51% of South Africans have no books in their homes, 14% of the population read books and only 5% of these read to their children. He also notes that only slight changes were effectuated to the above situation, which is hindered by cultural and social marginalisation through illiteracy. The marginalised include people residing in rural areas, who are often geographically isolated because of poor communication systems, and those disadvantaged by cultural and social poverty.

In an era where change is evident, some of these changes are also seen in academic libraries. As opined by Ogunleye (2015: 212) academic libraries in Belgium and many other places in Western Europe are better equipped and contain better infrastructure than libraries in South Africa. They have better resources when it comes to the adoption and usage of technologies, including social media. It is important to state that Higher Education Institutions (HEIs) in most African countries are compelled by their governments to have academic libraries. However, the support received from these institutions in terms of technological development and implementation is very limited. The libraries are rather maintained as a requirement for accreditation. This limits the adoption of technologies that can develop prospects for increased social media usage in academic libraries.

Kwanya (2011: 194) researched the potential of library 2.0 for research libraries in Kenya. He suggests that resources be made available in electronic formats to be accessible anywhere on campus as well as remotely, but he reports on poor Internet connectivity and lack of computers as hindrances (p. 187). It is important to note that the digital divide is a very significant hindrance for the development of infrastructure that can enable increased social media adoption among South African universities. Although Web 2.0 has already entered the country, the capability for using Web 2.0 and increasing social media usage for library purposes is being limited. Technological developments are necessary to improve social media usage in academic libraries. The lack of proper connectivity within university premises is a significant issue. Universities are often unable to provide sufficient internet connectivity to students or libraries to facilitate usage of social media. Lack of computers means that students and libraries have limited resources for implementing social media. Communication is greatly affected due to these important factors. A low number of more privileged students are the only ones who can afford better access to the social media activities of the libraries. Lack of infrastructure also leads to lack of digital awareness among many students. They are unable to properly use the

social media channels employed by libraries. Hence, there is a very important need to bridge the prevalent digital divide.

Okite-Amughero (2017: 97) examined the extent to which university libraries in Africa were using social media. The study highlights how social media have helped university libraries to provide, expand, promote, support, and post information to the patrons. Her results show that 96.3% of the student respondents preferred Facebook and 70.4% preferred Twitter (p. 190). She further notes the importance of academic libraries to make such platforms available to students, in order to promote the library's services and to make their presence known. However, Raju and Raju (2017: 42) researched hindrances in Africa. High bandwidth costs, power outages, poor information resources, dilapidated spaces and poor ICT infrastructure are significant issues that prevent African academic libraries from providing an efficient and effective library service. The authors describe African academic library collections and facilities as woefully inadequate and deteriorating (p. 76).

These problems also occur in other parts of the Global South. For instance, academic libraries in Pakistan are beset with an abundance of problems, in almost every aspect of academic library development, such as inadequate physical facilities, inadequate financial support, dwindling journal subscriptions and limited application of computer technology (Kaur, 2017: 174). However, in some parts of the Southern hemisphere academic libraries are beginning to rebuild physical buildings, and introduced networking, digitisation and resource sharing. These changes are depicted in a study conducted by Kaur (2017: 160) presenting the developments of academic libraries in Asia. She found that the oldest university library, Peking University library, erected a new high-tech library building in 1998 and owns the largest library collection in Asia and provides digital reference services. China forms part of the Global South countries as well as BRICS comprising Brazil, Russia, India, China, and South Africa (Misgar et al., 2020: 45). In China, some social media platforms such as Facebook and Twitter are blocked (Lovari and Valentini, 2020: 317) and such online reference services are uncommon. However, as described by Xu et al. (2015), the social media platform WeChat, a popular instant- messaging application, was adopted and used as a marketing tool by academic libraries to promote collections and services to users (p. 21).

1.8. Aim of the study

Academic libraries play a vital role in providing information and research support to students,

faculty and researchers. However, the emergence of new technologies has created a need for academic libraries to adapt their services and resources to meet the changing needs of their users. A major challenge facing the University of Limpopo Libraries is the inability to provide virtual information services, which hinders the university's ability to provide effective student support. Using social media platforms in academic libraries has been proposed as a possible way to bridge the digital divide gap and facilitate effective communication among students and library professionals.

This study examines the perceptions of library professionals and students regarding the adoption and use of social media in academic libraries. The purpose of this study is specifically to investigate how Facebook and Twitter might be used as innovative communication tools for promoting two-way interaction and real-time communication. This study is designed to provide insight into the factors related to the use of digital technologies in academic libraries to promote information resources and services.

The findings of this study are expected to contribute to the body of knowledge on the use of social media in academic libraries, and provide practical recommendations for improving service delivery. Ultimately, academic libraries should be able to provide their users with relevant and timely information resources and services while promoting social inclusion and equal opportunities.

Throughout the study, each chapter draws upon a unique theoretical framework in order to answer its research question. An introduction to Web 2.0 and Library 2.0 is presented in the introductory chapter, with subsequent chapters drawing from four different theories: Diffusion of Innovations, Social Capital, and the Unified Theory of Acceptance and Use of Technology (UTAUT). These theoretical frameworks are extensively discussed in the empirical chapters to provide a comprehensive understanding of the research findings.

1.9. Proposed theoretical frameworks, research objectives- and questions

The present study employs various theoretical frameworks, tailored to the specific research questions being investigated. Each chapter of the research explores how these theories relate to the empirical data presented. It is intended to introduce each theory and illustrate its relevance to the field of academic librarianship by guiding readers through the logical flow of information presented in the empirical chapters. The concept of Academic Library 2.0 is one of the key

theoretical frameworks employed in this study. This theory focuses on the adoption and integration of social media and web-based technologies into academic libraries. The research aims to examine the impact of these technologies on academic libraries and their effective implementation to improve services. A further framework used in this research is the diffusion of innovation theory (DOI), which explains the spread of ideas, products, and technologies through time and space. The DOI theory is particularly relevant to this study, as it helps to understand the successful adoption and integration of new technologies into academic library services, and the factors influencing their diffusion. The study also employs the Social Capital theory, which emphasises the value of social networks and relationships in creating and sharing knowledge. The research explores how academic libraries can harness social capital to improve their services and enhance the learning experiences of their users. Social capital is discussed in the context of bridging and bonding capital and supports the concept of “library as place”, suggesting the physical space of libraries and how it can create an environment conducive to learning, collaboration, and socialisation. The research explores how academic libraries can design their physical spaces to better serve their users. Finally, the Unified Theory of Acceptance and Use of Technology (UTAUT) is introduced in this study. This theory explains how individuals adopt and use technology in their daily lives. The research applies the UTAUT framework to explore the factors that influence the adoption and use of new technologies by academic library users, and how academic libraries can leverage this knowledge to improve their services. Overall, each chapter of the research employs different theoretical frameworks that correspond to the research questions being investigated. The introduction to each theory is aimed at providing readers with a better understanding of how these theories relate to the empirical chapters and the broader field of academic librarianship.

Against this background, this study sought to investigate how the University of Limpopo Libraries (ULL) and the University of Antwerp Libraries (UAL) use social media as scholarly platforms and general information dissemination to their student communities. The study sought to address the following research objectives:

- i. To establish whether social media have been adopted and how this technology is applied in the library’s operations and services.
- ii. To identify factors that limit and hinder the effective usage of social media tools in academic libraries, specifically, the University of Limpopo Libraries.
- iii. To investigate whether this initiative is used within the library services to encourage user participation.

- iv. To investigate whether social media is beneficial in this constantly changing environment.
- v. To investigate to what extent the student population would welcome the use of social media for study purposes.
- vi. To establish the use of social media platforms by academic libraries as information-sharing tools.
- vii. To ascertain the perceptions of library professionals concerning the use of social media in the provision of library and information services.

These objectives were translated into concrete research questions (RQ), with the intention to extract information that can assist this study to explore the current usage and future potential of Web 2.0 technologies for academic libraries. The main research question is: *To what extent and how do academic libraries in Belgium and South Africa use Web 2.0 technologies to promote library services and sharing of information?* The main focus of the study is specifically on understanding the social media aspect of Web 2.0 and its development and adoption across the library departments of Universities in South Africa. Social media and its adoption and usage in academic libraries is the specific focus of this study as it can help to understand the future prospects of social media for academic development. Hence, this particular aspect of Web 2.0 is considered to be most important for the study. In answering this question, we considered two groups of potential users of social media: on the one hand academic library professionals, on the other hand the student population.

The main research question was further developed in four separate studies.

1.9.1. Study 1

In study one, an analysis was conducted to compare and contrast the utilisation of social media in academic libraries of two distinct countries, namely South Africa and Belgium. The primary objective of this research was to gain a deeper understanding of how the Global North can contribute to the Global South by sharing their experience and expertise in the field. With this aim in mind, the research questions were carefully designed to elicit relevant information that could assist in exploring the potential of Library 2.0 and Web 2.0 technologies in academic libraries. The study thus seeks to investigate the extent to which social media is used in academic libraries in these countries, and how this can inform the implementation of similar practices in other contexts.

In academic libraries, Library 2.0 is defined as the use of Web 2.0 technology to improve services and meet users' changing needs. The model proposed by Xu et al. (2009) emphasises the interactive and participatory nature of Web 2.0 tools, which enables two-way communication between librarians and users. The five essential elements of Library 2.0, which incorporate both Web 2.0 and Library 2.0, are "open, interactive, convergent, collaborative, and participatory." These elements represent the changing nature of libraries and the need to adapt to new technologies to remain relevant and useful to users. By embracing Library 2.0, academic libraries can leverage Web 2.0 technologies to provide more personalised and engaging services to users. Libraries, for example, can utilise social media platforms in order to interact with users and promote events or resources. They can also add user-generated content to their collections in order to enhance engagement. Overall, the use of Library 2.0 represents a significant step in ensuring academic libraries remain current and meet their users' evolving needs. With the adoption of new technologies and the adoption of a more interactive and participatory approach, libraries will continue to play a crucial role in the academic community.

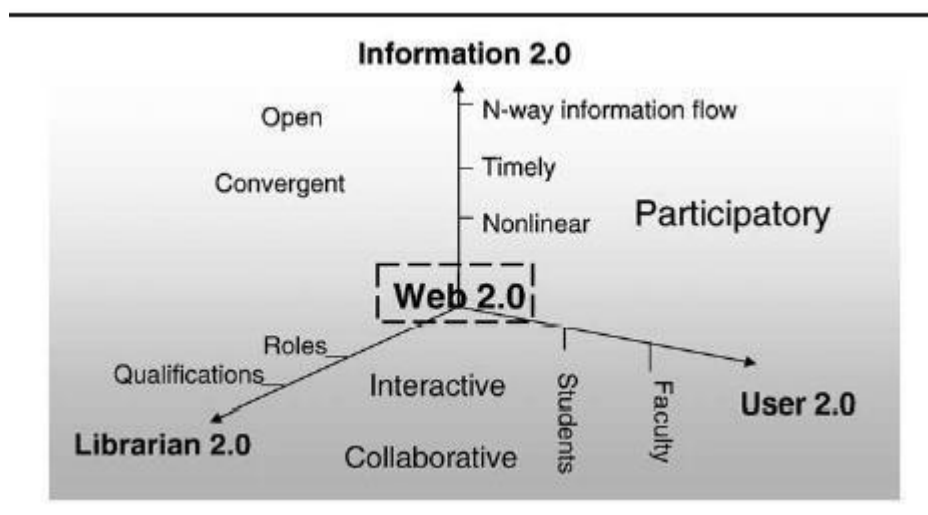


Figure 1: The Library 2.0 model (Xu et al., 2009: 330)

The question guiding study one is: *How do academic librarians use Web 2.0 technologies in their professional environment?* This question is further developed in secondary research questions (SRQs):

- SRQ1: Have Web 2.0 technologies been adopted by academic libraries?
- SRQ2: How is this technology applied in libraries' operations and services?
- SRQ3: What are the challenges faced in keeping abreast with changing technology or remaining current with new developments within the profession?

1.9.2. Study 2

In study two, which examines how non-adoption of social media at ULL affects staff morale, the following research questions are addressed:

- RQ1: What are the factors that hinder the social media adoption process?
- RQ2: What effect does non-adoption of social media have on employee morale?

Employee morale and innovation are critical aspects of organisational success. Low employee morale and internal environmental factors can negatively impact innovation in an organisation. The diffusion of innovations theory can provide valuable insight into these challenges. Using Everett Rogers' five categories of adopters, this paper explores the challenges faced by library professionals when adopting innovative technologies.

1.9.2.1. Diffusion of Innovations Theory

Diffusion of Innovations Theory (DOI) is a theoretical framework that explains how new ideas, products, or technologies spread through a social system over time. This theory was first proposed by Everett Rogers in 1962 and has since been widely applied in various fields, education (Sasaki, 2018), artificial intelligence (Lund et al., 2020: 865) including information science research and the use of electronic books (Raynard, 2017: 82). Everett Rogers' diffusion of innovations theory is a popular framework for understanding the adoption and use of innovative technologies (Chaputula et al., 2020: 718). The DOI identifies five categories of individuals in a social system, ranging from innovators to laggards, and explains how new innovations are adopted through different stages, including awareness, interest, evaluation, trial, and adoption (Rogers, 1995). DOI also recognises the importance of communication channels and opinion leaders in the diffusion process, as they can accelerate or hinder the spread of an innovation (Silva et al., 2022). DOI has been used to explain the adoption of innovations, and the adoption of new technologies such as smartphones (Adzobu et al., 2021: 367) and social media (Nordin et al., 2021). In the realm of libraries, a study by Neo and Calvert (2012) revealed that, during the persuasion stage, the attributes of relative advantage, compatibility, and complexity were the most significant motivating factors for the adoption of Facebook, as identified by DOI categories.

1.9.2.2. Challenges Faced by Library Professionals

Library professionals face a range of challenges when adopting innovative technologies. These challenges include low employee morale, resistance to change, and lack of funding and

resources (Chaputula et al., 2020: 722). A significant change in work practices is needed in libraries to adopt innovative technologies, which can result in resistance from employees. The diffusion of innovations theory can be used to understand the challenges that library professionals face in adopting innovative technologies. For example, innovators and early adopters are more likely to adopt new technologies, while the late majority and laggards are more resistant to change (Rogers, 1995: 4). Developing strategies to promote the adoption of innovative technologies can be made easier by understanding these categories of adopters.

Therefore, low employee morale and internal environmental factors can negatively impact innovation in organisations, including libraries. Using the diffusion of innovations theory, library professionals can gain valuable insight into the challenges they face when adopting innovative technologies. The adoption of innovative technologies can be promoted, and organisational success can be improved by understanding the different categories of adopters (Rogers, 1995: 4).

1.9.3. Study 3

In study three, two specific research questions are addressed, namely social capital, relationship building, and the library as a place.

- RQ1: How is social capital created in academic libraries?
- RQ2: How is the digital environment used to create social capital?

To answer these questions, two universities were studied, the rural University of Limpopo in South Africa and the urban University of Antwerp in Belgium, using one-on-one semi-structured interviews with students and library professionals.

The research questions have been addressed through two theoretical frameworks: social capital and the library as place. Study three presents a comprehensive analysis of these theories in Chapter five.

1.9.3.1. Social capital

Social capital is a well-established concept in the field of library and information services, as evidenced by Ramsey (2016) and Naseri (2017). This concept was originally introduced by French sociologist Pierre Bourdieu and describes cultural connections between individuals within social systems, which classify them into various groups. A key concept in Bourdieu's

(1996) work is social capital, which is defined as the resources that individuals obtain from their social networks. In Bourdieu's view, social capital results from the benefits arising from social networks, which may be influenced by socioeconomic factors. The use of social media platforms such as Facebook and Twitter in academic libraries has been shown to increase social engagement and social capital by connecting students to both physical and virtual library spaces. Thus, the library's resources are promoted, and an environment is fostered where students are encouraged to engage in social networks that enhance their learning. It is widely recognised that libraries are now considered to be third-place community institutions where people can interact and gather in a comfortable and pleasant setting outside their homes and workplaces (Aabø and Audunson, 2012; Rasmussen and Jochumsen, 2009). Third places were introduced by Oldenburg (1999), who argued that they should be affordable and provide a place where people can socialise and gather. It is essential that these spaces are comfortable and welcoming. A library serves a number of purposes, including the development of social capital and community. Oldenburg (1999: 42) highlights the contribution that third places make to the creation of social capital and community. In this context, the library serves as a third place that provides physical and virtual resources and access to technology. In the 21st century, academic libraries must not only strategically develop virtual services, but they must also ensure that they provide adequate physical space to support these services. Bryant et al. (2009:7) suggest that the shift towards electronic collections and services provides libraries with new opportunities to use their physical spaces creatively. The modern library should offer a variety of services to meet the needs of its users, including computer facilities, collaborative study areas, wireless laptop areas, and presentation rooms.

The University of Antwerp Libraries are recognised as a social meeting place where patrons use the library to study, browse through collections, surf the Internet, and read newspapers (University of Antwerp, 2020). Similarly, the University of Limpopo Libraries provide standard tertiary library services such as meeting rooms, learning spaces, circulation, reserve collection, subject and research librarians, information literacy, document supply, and photocopying (University of Limpopo, 2020).

Both Bourdieu and Putnam's understanding of social capital demonstrate nuances of bridging and bonding social capital and how they can be applied to academic libraries. Bridging social capital focuses on a wider spectrum of social interactions, such as the library's adaptation of social media to interact with the wider library community. On the other hand, bonding social

capital in this context shows that the academic library is a trusted institution that facilitates community building and provides collaborative spaces, as well as facilitating interaction through their user-centred approach to promote the sharing of ideas and resources through the adaptation of social media. Therefore, in this sense, the academic library serves as a place that promotes bonding social capital.

1.9.4. Study 4

Study four draws on the Unified Theory of Acceptance and Use of Technology (UTAUT), focusing on the student respondents and seeking to answer the research question: How do students perceive the acceptance and use of social media in an academic library setting?

Several studies have examined technology acceptance, including in academic libraries where social media has been shown to be an effective method of delivering library services (Gruzd et al., 2012; Saravani, 2013; Rempel and Mellinger, 2015; Ma et al., 2016). To address technology acceptance, the Unified Theory of Acceptance and Use of Technology (UTAUT) model was developed, which helps individuals understand the likelihood of adopting and using new technology (Venkatesh et al, 2003). The fourth study applies the UTAUT model to an academic library setting and focuses on the constructs of technology acceptance as defined by Venkatesh et al. (2003). The use of social media platforms like Facebook and Twitter can impact communication channels, but their value depends on user acceptance and use. In light of the fact that academic libraries are information specialists and information sharing institutions, the UTAUT model is applicable. It summarises technology acceptance theory and includes four constructs: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). In addition, the theory suggests that these constructs are moderated by four variables: gender, age, experience, and voluntariness. An in-depth discussion of this theory can be found in chapter six, study four.

1.10. Summary of chapters

This study contains four empirical chapters, which were published in various journals from 2019 to 2022. Each chapter addresses different aspects of the research topic, i.e., the adoption and non-adoption of Web 2.0 technologies, staff morale, digital inequality, social capital, library as a place, and the unified theory of acceptance and use of technology. This section presents an overview of the four chapters.

Study one sets the foundation for the issues to be discussed in studies that will follow after this study. The term “ease of use” came through in the interviews with library professionals. The study used technology acceptance according to Fred Davis’ (1989) perceived ease of use which is the degree to which an individual believes that using a particular system would be free of physical and mental effort. The term positively relates to user acceptance of technology, and in this case respondents found Facebook easy to use.

Furthermore, to provide clarity on the term “environmental factors” I will not generalise the term because the research is based on three academic libraries in Belgium and three academic libraries in South Africa. Environmental factors both internal and external have an impact on the adoption and use of social media. Based on questions posed, during the interview process, regarding technology, social media adoption, and availability of resources, I have a good understanding of these factors which I include as, (1) policies and processes, (2) socio-economic conditions, (3) resources and (4) technology. A concern is to cope with the rapid changing environment as libraries do not operate in an individual support system but are influenced by driving forces that have an impact on their future. The environmental factors that should be taken into account are external environmental factors, which encompasses the broader spectrum such as social, cultural, economic, political, technological and demographic parameters within which the library must operate (Udo and Ben, 2022: 2). The internal environmental factors involve the physical library, electronic resources, print resources, ventilation, limitations on the university’s network, and the university as a main body. Issues of low bandwidth were discussed as well as disproportionate socio-economic conditions that were especially focused on the University of Limpopo Libraries. The study concludes that internal environmental factors such as low bandwidth hampered the adoption of social media processes.

To clarify the age range of library professionals in this study, it is rather broad, ranging from 25 years to 57 years which also impacts on experience, however, the difference in age gave the research a perspective of what the younger generation’s library professionals require and how the older generation has evolved being it with adoption or their viewpoints on adoption or non-adoption of social media. I would say that there was one sceptic person aged 47, who was not inclined with social media based on time constraints and perceived challenges and one library professional aged 25 who had to assess the needs of their clients and based on library patrons who were elderly folk and younger generation, a balance was required to ensure that all clients

were satisfied by re-addressing operational matters and designing a hybrid means of communication by sharing information in print format and virtually. Overall all the respondents were in favour of adopting social media as means of communication including a library professional at age 57 who have evolved with time and have adopted the changing technological library environment by being an administrator of their library's social media pages.

1.10.1. Chapter 3, Study 1: The adoption of Web 2.0 technologies in academic libraries: A comparative exploration

The paper presented in Chapter 3 concerns the adoption and non-adoption of Web 2.0 technologies by academic libraries who have been in the front line to adopt and use innovative platforms and web technologies to enable an interactive, user-centred user experience. Not all academic libraries are accepting of such innovative technologies. To understand the reasons why academic libraries choose to adopt or not adopt Web 2.0 technologies, this study used a comparative analysis, using semi-structured interviews conducted with sixteen library professionals at six academic libraries in Belgium and South Africa.

The adoption of Web 2.0 technologies such as Facebook and Twitter would enable academic libraries to reach more students when providing virtual library services and can be considered to move academic libraries to a digital era. This chapter brings awareness to the usefulness of Web 2.0 technologies and the impact it might have on the digital environment by creating a user-friendly environment that is technologically savvy, accepted by library professionals and students and its interactive use of sharing information accessible on platforms used by the current cohort of students. This study set the background of the adoption processes and protocols and highlighted aspects of concern explored in study two as respondents from the University of Limpopo provided a gloomy and melancholy account of their experience.

1.10.2. Chapter 4, Study 2: social media, diffusion of innovations, morale and digital inequality: A case study at the University of Limpopo Libraries, South Africa

The job portfolio of library professionals has changed significantly within the last few years as a result of technological advancements and the adoption and use of social media for communication purposes. Similarly, the role of library professionals has been particularly affected by the innovative developments that have transformed the library and information services profession within academic libraries. This article addresses the skills needed to manage social media platforms for academic libraries. The study used semi-structured interviews with

five library professionals at a South African academic library and revealed that their requests to adopt social media were negatively perceived and the need to acquire social media skills was strongly expressed. Findings confirmed the importance of adopting and using technology such as Facebook and Twitter to ensure library professionals are kept abreast of new developments, but the interviewees felt they were becoming detached from the movements in the profession and becoming stagnant, while non-adoption had a negative influence on employee morale. Social media were perceived as a necessary tool to communicate with students and promote the library's resources.

1.10.3. Chapter 5, Study 3: Library as a place: Evaluating physical and virtual spaces. A case study of two academic libraries.

Students' and library professionals' needs have changed in the 21st century as they require a different set of skills. Therefore, it is imperative for academic libraries to create spaces, physically and virtually, to accommodate the needs of students. The study does not only discuss physical space but also addresses digital inequality and the importance of accessibility to resources to improve socio-economic conditions and create social capital in academic libraries. Using a qualitative approach, semi-structured interviews were conducted with thirty students and four library professionals at two universities, the University of Antwerp and the University of Limpopo. The findings revealed the need by students as the physical space at both academic libraries is heavily used for group discussions and individual use. On the other hand, although social media were perceived as a faster method of communication, students at the University of Antwerp Libraries had mixed views regarding the adoption and use of social media with the majority of respondents in favour of these adoptions and few students were not in favour. In contrast the University of Limpopo Libraries welcomed new technology and improved communication to prevent the libraries from becoming stagnant and archaic.

1.10.4. Chapter 6 Study 4: Students' perceptions of the adoption and use of social media in academic libraries: A UTAUT study

The arrival of Facebook and Twitter has encouraged the rise in virtual connections, creating communication tools to contact people, locally and abroad. Facebook and Twitter aroused general enthusiasm among students and these platforms evolved with gusto and were adopted by many academic libraries. The reason for the study of social media like Facebook and Twitter is that these are used extensively in the current world, which is important to gain knowledge about the adoption and use. This study offers a detailed account of adopting an informal online

communication tool by examining the perceptions of students. We report the findings from a list of questions designed according to Venkatesh et al. (2003), as I conducted interviews with students at the University of Antwerp and at the University of Limpopo. The questions were designed in order to investigate the respondents' perceptions of the adoption of social media, namely Facebook and Twitter, in an academic library setting and used the constructs by Venkatesh et al. (2003), performance expectancy, effort expectancy, social influence and facilitating conditions to explore students perceived behavioural intentions to use social media. A sample of 30 students was selected from two universities, one in Belgium (University of Antwerp) and one in South Africa (University of Limpopo). The study showed that the adoption of social media was positively influenced by effort expectancy, performance expectancy, and social influence. A major challenge reported by most respondents at the University of Limpopo was digital inequality such as poor internet access and the non-adoption of Facebook and Twitter by the university library, whilst respondents at the University of Antwerp had mixed feelings about the adoption of Facebook and Twitter for scholarly communication.

CHAPTER TWO: RESEARCH METHODOLOGY

2.1. Introduction

The thesis focuses on the adoption and use of social media by academic libraries from the perspectives of two groups of respondents, library professionals and registered students affiliated with the researching institutions. Respondents for the first group were library professionals and were representatives of institutions where the questions were based on job-specific requirements with the freedom to bring their lived experiences to the research. The second group were registered students who gave their perceptions and vision to shape the academic library services based on students' needs to equip the academic library services with current technology. Despite the existence of various data collection methods, there is always a possibility of bias in the study design or data collection process. This perception of bias suggests that there is no single best practice for data collection. Nevertheless, in order to achieve the objectives of the study, a semi-structured qualitative interview approach was deemed more appropriate.

The research method used in this study allowed me to probe questions based on the research problem which was an effective method to gather more information. The interview process produced the viewpoints of respondents in the study about their experiences which seeks to understand the human connection within the adoption and use of social media as well as the virtual and the physical academic library context.

This doctoral thesis is a combination of four research projects (1) the adoption and non-adoption of Web 2.0 technologies; (2) low staff morale; (3) library as place – addressing the virtual and physical spaces of academic libraries; (4) students' perceptions on the adoption and use of social media within an academic library context.

2.2. Research Approach: Qualitative interviews

Roulston and Choi (2018: 233) explains that interviews are omnipresent and are driven by a question-and-answer sequence. Interviews range from a structured format in which questions are asked in a specific order using the same format to semi-structured interviews in which the organisation of topics is less tightly formatted. Creswell (2009: 1) noted that qualitative research enables the researcher to access the perceptions and feelings of the research participant, which

helps to develop an understanding of the respondents' lived experiences. In order to do so, the researcher tries to understand the meaning of human attributes to a problem (Creswell, 2014: 4).

However, while qualitative research can provide rich and detailed data (Nassaji, 2015), it has several limitations that should be considered. One of the main limitations of qualitative research is that it often involves small sample sizes (Vasileiou et al., 2018), which can limit the generalisability of the findings. Additionally, qualitative research is often time-consuming and labour-intensive (Anderson, 2010), which can make it difficult to conduct on a large scale. Another limitation is the potential for researcher bias to influence the interpretation of data, as the researcher's personal beliefs and experiences may shape their analysis (Galdas, 2017). Finally, the lack of standardisation in qualitative research can make it challenging to compare findings across different studies or contexts (Noble and Smith, 2015). Despite these limitations, qualitative research remains a valuable method for exploring complex and nuanced phenomena.

2.3. Data Collection

According to Adams (2015: 496), the semi-structured interview process is a data collection technique that involves asking questions within a theme framework. The questions, however, are not in any order or format. Semi-structured interviews are frequently qualitative in character in research. The use of semi-structured interviews offer first-hand contact with concepts and feelings and confers a certain flexibility allowing respondents to reflect and respond at their own pace (Conrad and Tucker, 2019: 400).

An interview that is semi-structured may include either open-ended questions or questions that are based on an interview guide. These questions pertain to certain subjects the researcher wants to explore with respondents (Roulston and Choi, 2018: 233). In a semi-structured interview, the researcher has the opportunity to ask follow-up questions based on the respondent's responses (p. 233). The researcher arranges the questions in a precise order that enables the participants to engage in a free-ranging discussion of the research issues (p. 233). This form of qualitative interview is frequently employed as the principal research approach in a variety of academic fields (p. 233).

In developing a rapport with respondents, the interviewer needs to interact in a professional manner, and it is essential that the researcher understand how to gain access to the intended

respondents (Given, 2008: 432). According to Creswell (2009: 164) a holistic account of qualitative researchers tries to develop a complex picture of the research problem. This involves reporting multiple perspectives, identifying the factors involved and sketching the broader picture that emerges.

A set of core characteristics were identified by Teddlie and Tashakkori (2012: 775) which may be considered to be characteristics of good research. The focus should be on the research questions and research problems, which determines the methods to be employed within a study. They also place emphasis on diversity at all levels of the research and the reliance on visual reorientations are common within these characteristics (p. 775).

In phase one of this study one-on-one in-depth interviews were intended to be conducted which were achieved. The focus of this research was firstly on library professionals who had the knowledge and years of experience based on job portfolios to shape the research. Library professionals were invited through electronic mail messages through the Directors of responding academic libraries. Initially it was intended to conduct a mixed methods approach using both qualitative and quantitative methods but after much deliberation, the interview approach seemed much more beneficial as a data collection instrument. Interviews permitted respondents to communicate their experiences in their own words, allowing freedom of speech to voice the current situation at respective academic libraries and envision a future or improved academic library service. The interviews gathered respondents' experiences and grouped these according to similarities and differences. The main advantages of interviews are that they allow respondents to describe their responses in detail giving depth of knowledge to responses (Roulston and Choi, 2018: 235). The response rate for the interview questions increases, as the interviewer can ask all the applicable questions.

A strength in the semi-structured interview process is that it gives direct access to the experience of individuals as they provide evidence of a range of topics within the context of the research interview (Flick, 2014: 217). As mentioned by Given (2008: 62) semi-structured interviews are designed to give respondents the freedom to explore topics within research settings and invite reciprocity by openly responding to questions and comments from interviewees and treating respondents with respect and care (p.129). In response to the interview undertaken by the researcher, interviewees may provide confessional and self-revealing details about their lived experiences, beliefs, and perceptions. The conversational interview helps in being simple and

maintains a realistic form of data collection method (Given 2008: 129). The interviewer can guide and set the tone for the interview in the sense that it is possible to adapt the interview questions according to the progress of the interview in terms of how much respondents may choose to share or withhold (p. 62).

In relation to the limitations, the process of preparing for the interviews, setting up the interviews, conducting and analysing them is not quick and easy. Adams (2015: 493) and Klenke et al., (2016: 130) concurred that interviews are time-consuming and labour intensive and require good interviewing skills. Furthermore, Adams (2015: 493) clarified that semi-structured interviews entail the arduous task of analysing a huge volume of notes and sometimes many hours of transcripts. Without a good complement of personnel, semi-structured interviews are unlikely to encompass a large enough sample to be representative of the total population (p. 493). With advanced technologies such as electronic mail, virtual meeting platforms, these platforms can be used to collect data and despite these limitations, researchers view the research interviews as a valuable approach to studying social life by Taylor et al. (2016: 107).

To gather information on pre-identified and emerging themes, library professionals were asked about their job portfolios, social media use in the work front, staffing issues, budgeting, limitations and collaboration between ICT and the library. The interviewer guide is included in Appendices 1 to 4. The library professionals provided an opportunity to gather more detail on the adoption (or non-adoption) and use of Facebook and Twitter within their respective academic libraries and their perceptions of these social media. Throughout the interviews conducted with library professionals at the University of Limpopo themes such as digital inequality and low employee morale lead to the second scholarly article focusing on three emerging themes, namely: the impact of non-adoption in an academic library; the impact of digital inequality; and the impact on employee morale.

2.3.1. Interview procedure

Semi-structured interviews were conducted individually with each of the respondents. According to the schedule of participants, the timeframe provided was between 30 to 60 minutes per person for library professionals and 30 to 45 minutes for student respondents. The most exciting part of the interview process was visiting various academic libraries in Belgium and receiving a tour of each library. Similarly, and although mostly virtually conducted, academic libraries in South Africa gave me a greater understanding of their operations and management

processes followed. This process was not only an exercise for research purposes but also for career development and benchmarking the University of Limpopo Libraries against other academic libraries and identifying strengths and weaknesses to improve current situations.

Individuals exhibit a variety of responses when encountering new technologies, which they may either embrace or decline based on their personal inclinations. In the initial phases of my thesis, I received guidance from my research committee to employ the Unified Theory and Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003). After careful consideration, it became clear that this theory was the most appropriate framework for my research. The UTAUT model proved to be effective, encompassing all the necessary constructs to formulate inquiries related to the intention to utilise and adopt novel technologies. The UTAUT model have been used to analyse the human intention to adopt or not adopt technologies in various fields of study as well as in the academic library field. The UTAUT model has been applied and tested for technology adoption and use within the academic library and information services field by Onyancha and Kwanya (2019: 396) and demonstrated that UTAUT has the potential to explain and demonstrate technology acceptance.

In an attempt to search for a complete information technology acceptance model, Venkatesh et al. (2003: 425) integrated core elements from eight models; the theory of reasoned action, the technology acceptance model, the motivational model the theory of planned behaviour, a model combining the technology acceptance model and the theory of planned behaviour, the model of PC utilisation, the innovation diffusion theory, and the social cognitive theory to explain new technology adoption, acceptance, and usage and proposed a unified model, the Unified Theory of Acceptance and Use of Technology (UTAUT) model. I have decided to experiment with this model as it was originally designed to measure ICT usage. Although quantitative analysis can determine respondents' intention to adopt and use a specific technology, I based this study on a qualitative exploration to understand the reasons behind adoption or non-adoption of Facebook and Twitter by participating academic libraries in this study. Based on the study by Venkatesh et al. (2003), the interview questions in this study used the constructs (1) performance expectancy, (2) effort expectancy, (3) social influence and (4) facilitating conditions to draft questions. The research questions for both library professionals and student respondents were adapted in line with these constructs but also included digital inequality, which was spread across all the scholarly articles in this study but this model was outlined in study four where this was extensively studied. Questions were drafted in layman's terms so that they are clearly

understood by respondents.

In both phases, the first set of questions were general questions and personal background information. The second part of the interview process sought perceptions of lived experiences regarding staff morale, social capital, technological difficulties, and social media-related questions, allowing the interviewer to probe.

All interviews were audio-recorded and transcribed verbatim. The main interviewer designed a code especially for student respondents, to ascertain anonymity, using an acronym to describe each university followed by a sequential number. For instance, in identifying each university, I used the acronym UA and UL for University of Antwerp and University of Limpopo respectively followed by an “S” to identify the word student, followed by a numerical code. For example, UAS#1-15 identified students from the University of Antwerp and ULS#16-30 identified students from the University of Limpopo. Raw data was kept in a safe place and was only accessible to the research team.

2.4. Sampling

As a registered student at the University of Antwerp and an employee at the University of Limpopo, I conducted research using a convenience sample of data collected from six higher education institutions in Belgium and South Africa. The University of Antwerp was used as a benchmarking institution against the University of Limpopo. By collecting research data from participating university libraries, the research sought to identify and understand the differences between urban and rural areas in South Africa. The participating university libraries in Belgium included the University of Antwerp Libraries, the Free University of Brussels Libraries, and the Catholic University of Leuven Libraries. In South Africa, the participating universities were the University of Limpopo Libraries, Gauteng University Libraries, and the Cape Peninsula University of Technology Libraries. To gather data, two sets of interview questions were drafted; one for library professionals and another for student respondents. It was required that the student participants in the study be at least 18 years old.

In the first research phase, interviews were conducted with sixteen library professionals and one network manager, aiming to understand their current uses and assessment of social media. As I was residing in Belgium at the time, face-to-face interviews were perceived as beneficial for library professionals residing in Flanders, and Skype was seen as an effective method to

reach librarians residing in South Africa. Owing to limitations at the University of Limpopo Libraries, such as computer settings blocking the use of Skype, it was necessary to conduct virtual as well as face-to-face interviews. The focus of the research was to ask relevant questions pertaining to the adoption and use of Web 2.0 and Library 2.0. I became a follower of their Twitter pages and liked their Facebook pages to be kept abreast of new posts. All the libraries have a social media profile on one or both of these platforms, except for the University of Limpopo Libraries who were non-adopters of Facebook and Twitter, and these platforms were blocked during core business hours. The University of Limpopo Libraries made use of the university's Facebook and Twitter platforms, under the management of Marketing and Communication responsible for content, design and development approval (University of Limpopo, 2016).

Table 1: Overview of library professionals and responding institutions: Belgium

Respondent pseudonym or code used	Appear(s) in	Gender	Age	Years of experience	Job profile	Academic Institution
Xavier UALP#1	Study 1 Study 3	Male	33	2	Curator	University of Antwerp
Emma UALP#2	Study 3 Study 1	Female	36	10	Operations Manager	University of Antwerp
Bryson	Study 1	Male	37	7	Advisor	Catholic University of Leuven
Imelda	Study 1	Female	37	2	Library Assistant	Catholic University of Leuven
Charmaine	Study 1	Female	26	4	Responsible for the Information Desk and Campus Library Arenberg	Catholic University of Leuven
Irvin	Study 1	Male	25	2	Communication Representative	Catholic University of Leuven
Tara	Study 1	Female	37	7.5	Head of the Medical Library	Free University of Brussels
Mila	Study 1	Female	40	11	Head of the Library, Technical Services	Free University of Brussels

Table 2: Overview of library professionals and responding institutions: South Africa

Respondent pseudonym or code used	Appear(s) in	Gender	Age	Years of experience	Job profile	Academic Institution
Ashley	Study 1	Female	52	15	Librarian: Applied Sciences	Cape Peninsula University of Technology
Sharna	Study 1	Female	44	26	Branch Librarian	Cape Peninsula University of Technology
Aisha ULLP#1	Studies 1 & 2 Study 3	Female	47	27	Senior Librarian	University of Limpopo
June UALP#2	Studies 1 & 2 Study 3	Female	41	10	Acting Senior Librarian	University of Limpopo
Tina	Studies 1 & 2	Female	37	13	Faculty Librarian	University of Limpopo
Cassie	Studies 1 & 2	Female	36	11	Faculty Librarian	University of Limpopo
Skylar	Studies 1 & 2	Female	40	13	Subject Librarian	University of Limpopo
Lisma	Study 1	Female	57	27	Library Manager	Gauteng University

During the second phase of the study, data was collected from the student respondents at the University of Antwerp and the University of Limpopo. Invitations to participate in the study were submitted through electronic mail using the students' mailing list. At the University of Antwerp, the quota of 15 students per institution was soon reached. Participating participants were asked to sign a consent form. Face-to-face interviews were conducted with respondents between September and December 2016.

The same cannot be said for the University of Limpopo students as there were challenges that led to changes in the initial proposal to collect data. Initially, virtual interviews were deemed practicable to conduct the interviews in South Africa but owing to poor resources and inactive university email addresses, I conducted both face-to-face and virtual interviews. A call for participation was submitted, several times, to the students' electronic mailing list, with a slow response rate. Only three respondents replied to the electronic mail. For this reason, snowball sampling was seen as a convenient method to attract students, using the face-to-face interview method and was used to recruit respondents. This method is most effective when the members of the population are not easily accessible (Naderifar et al., 2017). The research was conducted by following the ethical principles and procedures as approved by the ethical board of the

University of Antwerp. The interviews were held between December 2016 and November 2017.

Respondents were a mix between undergraduates and postgraduates from different faculties, and ages ranged from 18 to 62 years. Participation was voluntary and the respondents' identity was kept strictly confidential. All the participants were treated in accordance with the ethical guidelines of the University of Antwerp and the University of Limpopo. No risk factors have been identified in this study. Participation in the data collection process was entirely voluntary and respondents had the freedom to withdraw at any time. Responses were treated with the utmost confidentiality and respondents remained anonymous. A consent form and background information of the study were provided to allow respondents to give their informed consent. (Refer to the interview [protocol and questions section in the appendices 3 to 4 for the interview questions])

Table 3: Overview of students: University of Antwerp

Respondent code	Appear(s) in	Gender	Age	Department	Enrolment status
UAS#1	Study 4	Male	23	Political Communication	Postgraduate
UAS#2	Study 4	Male	24	Architecture	Undergraduate
UAS#3	Study 4	Male	25	Translation	Postgraduate
UAS#4	Studies 3 & 4	Male	62	Arts	Undergraduate
UAS#5	Study 4	Male	18	Product Development	Undergraduate
UAS#6	Study 4	Female	24	English, Literacy Theory	Postgraduate
UAS#7	Study 3	Female	30	Training and Education Sciences	Postgraduate
UAS#8	Not quoted	Female	27	Pharmaceutical, Biomedical and Veterinary Sciences	Postgraduate
UAS#9	Not quoted	Female	37	Communication Studies	Postgraduate
UAS#10	Study 3	Male	26	Law	Postgraduate
UAS#11	Study 4	Female	25	Transport Economics	Postgraduate
UAS#12	Study 3	Female	47	Development Evaluation	Postgraduate
UAS#13	Studies 3 & 4	Female	21	Social Sciences	Undergraduate
UAS#14	Study 4	Female	25	Applied Economics	Postgraduate
UAS#15	Study 4	Male	27	Organisation and Management	Postgraduate

Table 4: Overview of students: University of Limpopo

Respondent code	Appear(s) in	Gender	Age	Department	Enrolment status
ULS#16	Not quoted	Male	25	Mathematical and Computer Sciences	Postgraduate
ULS#17	Not quoted	Female	23	Molecular and Life Sciences	Postgraduate
ULS#18	Study 4	Male	22	Economics	Undergraduate
ULS#19	Not quoted	Male	30	Languages and Communication Studies	Undergraduate
ULS#20	Study 3	Male	27	Languages and Communication Studies	Postgraduate
ULS#21	Studies 3 & 4	Female	22	Health Sciences	Undergraduate
ULS#22	Studies 3 & 4	Female	22	Social Sciences	Undergraduate
ULS#23	Studies 3 & 4	Female	22	Science and Agriculture	Undergraduate
ULS#24	Study 3	Male	23	Education	Undergraduate
ULS#25	Study 3	Male	24	Agriculture and Environmental Science	Undergraduate
ULS#26	Studies 3 & 4	Female	21	Accounting	Undergraduate
ULS#27	Not quoted	Male	34	Languages and Communication Studies	Undergraduate
ULS#28	Study 4	Female	27	Humanities	Postgraduate
ULS#29	Not quoted	Female	23	Languages and Communication Studies	Postgraduate
ULS#30	Not quoted	Male	20	Science and Agriculture	Undergraduate

Even though the age gap differed for student respondents, the opinions shared were similar as they viewed the library and its resources, irrespective of level of study or age. Therefore, no significant difference was observed and has not led to other responses.

2.5. Data analysis

During the first phase of the interview process, the lead author, transcribed interviews by library professionals from six academic libraries verbatim. In the first study NVivo, a qualitative and mixed-methods research software tool, was used to analyse the unstructured text. NVivo was developed by QSR International for qualitative data analysis such as narrative analysis, content

analysis, audio, video, interviews, and focus group discussions and provides a workspace for researchers to store, manage, query and analyse data (Phillips and Lu, 2018: 104). The NVivo programme is most commonly used to organise data into themes in order to make retrieval of that data faster and more efficient. It is simple to detect themes throughout your data sets by analysing several codes known as nodes (p. 104).

Study one describes the use of NVivo for data analysis. A short description of the data analysis process was mentioned in the article but in this section, the procedure is discussed in detail. I transcribed the data verbatim after each interview. I read the transcripts and identify themes. After the completion of all sixteen interviews, I uploaded these onto NVivo, version 11, which was accessible to registered students at the University of Antwerp. I found the software to be user-friendly as it came with a standard example to organise and analyse data. Before coding, I went through the process of reading the interviews to familiarise myself with the interview discussions. I found it helpful to listen to parts of the audio recordings to connect with respondents personally and relive the experience. Interviews were coded by nodes, as known on NVivo, to produce relevant themes. Themes were coded through recurring words, phrases and subjects, which were identified as pre-identified themes from questions posed. After coding, I indexed the themes systematically in textual form by marking transcripts with numerical codes and supported these with short text descriptors to elaborate index terms. In study one, the process of identifying thematic themes was essential for interpretation of qualitative data. This was carried out by identifying similarities and differences. The coding process was finalised through NVivo and themes were identified in the said study.

An interpretive phenomenological analysis (IPA) was selected as the research approach for this investigation. Interpretive phenomenological analysis focuses on the relevance of understanding and interpretation of everyday life (Flick, 2018: 298) and allows qualitative researchers to investigate and explore how others make meaning of significant life experiences.

The interpretive phenomenological analysis is a modern qualitative research approach grounded in phenomenology and hermeneutics (Miller et al., 2018). It is an interpretivist form of research, guided by the researcher's beliefs and feelings about the world and how it should be understood and studied (Denzin and Lincoln 2008). This approach is well suited for research in education and student analysis, emphasising the social nature of reality and lived experiences. To allow the researchers to make sense of their experiences, Interpretive Phenomenological

Analysis (IPA) was used, following four stages: 1) identifying themes (pre-identified); 2) connecting text to the themes; 3) continuing the analysis with other cases and 4) writing up (Smith and Osborn 2008). The process is highlighted below.

During the second phase of the research, I proceeded with the verbatim transcription of student respondent interviews, highlighting similarities and differences. Interviews were transcribed within a week after each interview. During these transcriptions, I filtered through topics eliminating unrelated text that had no obvious connection with the research. From the collected text, I began by summarising pre-identified themes to extract similarities and differences. I then drafted a visual model of differences and similarities that I found useful to envisage the broader picture and connect themes to ensure that all the steps in the process of data analysis are followed. I used this model as an approach to explore each of the four topics according to the scholarly articles of studies two to four in this thesis.

The overall compilation of this research would not have been possible without the confirmation of institutions and individual respondents. The main institutions are University of Antwerp and the University of Limpopo for allowing me to conduct the study under their leadership and guidance. Credit is given to my supervisors, Prof. dr. Alexander Dhoest and the late Prof. dr. Ian Saunderson for their guidance, input and contributions to the four studies and for shaping the overall research to its final state. As we have all contributed to study one, two, three and four, the use of the pronoun “we” is used as described in respective chapters. The use of the pronoun “I” is used in the Introduction and the Research Methodology chapters.

CHAPTER THREE: STUDY 1

The adoption of Web 2.0 technologies in academic libraries: A comparative exploration

Abstract

This paper addresses the adoption and non-adoption of communication methods such as social media and explores the implementation of Web 2.0 technologies and their use in academic libraries. I interviewed 16 library professionals from six academic university libraries in the Flanders region of Belgium and in South Africa. I explored five academic university libraries in the urban regions of Flanders and South Africa, and one situated in a rural region of South Africa. This article discusses the benefits of using social media as a communication tool to engage with students. The results demonstrate that ‘ease of use’ was portrayed as a beneficial construct and has a positive influence on behavioural intention and use of Web 2.0 technologies. A comparison on the adoption of social media between the two countries indicate that financial resources, infrastructure, and management support are crucial determining factors in service delivery.

Keywords

Academic libraries, Belgium, social media user engagement, South Africa, Web 2.0 and Library 2.0

Reference

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Introduction

Libraries have a well-established tradition of going where users are (Bell, 2008: 45) and Library 2.0 represents a model of change in library services (Kwanya et al., 2009: 74). Social media have changed the landscape of academic libraries across the globe. The Internet has facilitated this, irrespective of distance and space, and academic libraries are following suit. Concurring with Kelly and Glazer (2013: 27) social media created a new landscape for academic librarians where duties include managing academic libraries' social media channels through platforms that can reach the student community instantaneously. Referring to the fourth industrial revolution Yilmaz et al. (2017: 251) and Frederick, (2016: 10) articulate this as a new phase in industrial transformation which places innovative technology into perspective as it appears to have two main streams. The first stream is what these new technologies can do to improve and augment the lives and bodies of human beings, while the second stream accepts hi-tech industrial processes (Frederick, 2016: 10). Equally, academic libraries, in an effort to provide convenient and effective service, have been eager to implement new technologies. As Web 2.0 technologies are becoming popular and growing rapidly (Harinarayana and Raju, 2010: 77), academic libraries have been equally quick to start 'liking', tweeting and creating friendships on a variety of platforms (Hicks, 2012: 190). Academic libraries use social media to transmit information and connect with patrons (Shulman et al., 2015: 178) by using Web 2.0 tools to offer traditional services in an innovative manner and address the information requirements of techno-savvy users (Tripathi and Kumar, 2010: 205).

This article explores the use of social media, Facebook and Twitter, by academic libraries and provides an insight into the benefits and technological deterrents faced. The main objectives of the study were to establish whether academic libraries in Belgium and South Africa have adopted Web 2.0 technologies and how these technologies are applied to their operations and services. In the past, South Africa was dominated by the Afrikaner nationality, also known as the Dutch-speaking white farmers and, based on the colonialist, apartheid era and post-apartheid era, the historically and ethnically diverse history between the Dutch and South Africa has led me to benchmark these two countries. Belgium, in particular its Dutch-language region Flanders, and South Africa share a long history based on close language and cultural ties (Embassy of the Republic of South Africa, 2006). The Afrikaans dialect spoken today originates from the Dutch language spoken by early settlers in the 1600s (South African History Online, 2011). Much of the history has created a divided and oppressed society of clashes between land, ethnicity and socio-economic division. The uneven diffusion of information and

communication technology (ICT), essential for socio-economic development, impacts on all spheres of individual and collective life. In this global digital age, those who are unable to access ICTs are increasingly disadvantaged (Nkondo et al., 2014: 93). The disparity caused by the apartheid era has had direct consequences. On 2 February 1990 the ruling party's president, Frederik Willem de Klerk, one of the driving forces in ending apartheid, announced the unconditional release of Nelson Mandela (Beck, 2000: 180), moving the country from apartheid to democracy.

The selection of university libraries from the two countries provides a diverse account of their socio-economic, infrastructural differences and use of social media for educational purposes. Similarly, the University of Antwerp and University of Limpopo are partner universities in several Erasmus Mundus Partnership programmes including EUROSA coordinated by the University of Antwerp (University of Antwerp, 2017a). Based on these partnerships, I have chosen South African and Belgian University Libraries to examine the use of social media between these two countries. The study presents the disparities in academic libraries between the historically advantaged institutions (HAI) and the historically disadvantaged institutions (HDI) in South Africa. Two higher education institutions participating in this study, Cape Peninsula University of Technology and the Gauteng University are HAI whereas the University of Limpopo is a HDI with significant disparities. The participating academic libraries in this study are summarised and described below.

The population of the study was comprised of academic library professionals from two geographically diverse populations, the Dutch-speaking Flemish region of Belgium (Flanders) and South Africa. The participating Flemish academic libraries in Belgium were the University of Antwerp Libraries (UAL), Free University of Brussels Libraries (FUBL) and Catholic University of Leuven Libraries (CULL). Participating university libraries in South Africa were the Gauteng University Libraries (GUL), Cape Peninsula University of Technology Libraries (CPUTL) and the University of Limpopo Libraries (ULL). In this study, the University of Limpopo is the only academic institution situated in a rural area. The fundamental aim of the university is to be a leading university that addresses the needs of the African rural communities (University of Limpopo, 2022a). The Limpopo Province is one of the poorest and predominantly rural provinces in South Africa (Mabila et al., 2006: 297). The academic libraries in this study provide variation in terms of location, urban and rural, to ascertain if geographical location has

an impact on the adoption process. For consistency, the university libraries in this study were referred to as ‘University Libraries’.

This research provides an explorative comparison and further examines the role that internal and external factors play in the adoption of Web 2.0 technologies. The study compares the two countries in an attempt to better understand the use of social media in academic libraries and how the Global North can contribute with their experience and expertise to better inform the Global South. The research questions were designed with the intention to extract information that could assist this study to explore the use of Library 2.0 and question the potential of Web 2.0 technologies for academic libraries. As this was a selective approach and sought the insight of social media administrators by means of interviews, a qualitative research method was employed. The research question: How do academic librarians use Web 2.0 technologies in their professional environment? is answered by secondary research questions (SRQs). SRQ1: Have Web 2.0 technologies been adopted by academic libraries? SRQ2: How is this technology applied in libraries’ operations and services? SRQ3: What are the challenges faced in keeping abreast with changing technology or remaining current with new developments within the profession?

Theoretical framework

Technology acceptance is an active area of research where several models and theories have been proposed to understand the drivers of technology adoption (Akbar, 2013: 2). The theories, Library 2.0 and perceived ease of use, studied in this research explain the technology acceptance of the predicted behaviour of academic librarians. These theories portray equal relevance to the study. Derived from Davis’ (1989: 320) construct, in this study ‘perceived ease of use’ refers to the degree to which academic librarians perceived social media as easy to understand and operate. Web 2.0 is an advanced technology of the 21st century and offers academic libraries a virtual environment beside more traditional forms of communication such as electronic mail or snail mail. The term ‘Web 2.0’ originates from the Web 2.0 summit held in 2004, and includes principles such as ‘harnessing collective intelligence’ and ‘trusting users as co-developers’ as outlined by O’Reilly and Battelle (2009: 1). Chua and Goh (2010: 203) define Web 2.0 in a similar way, as an emerging form of applications that has the potential to enable collaboration. The phrase ‘Web 2.0’ gained popularity and people began to look at the rise of sites such as Facebook; as a result, the term ‘social media’ has become the preferred term since 2005 (Bradley, 2015: 3). Michael Casey (2005) coined the term ‘Library 2.0’, prompting library

practitioners and researchers to actively explore how Web 2.0 applications could be introduced to libraries for service enhancement and to encourage participatory librarianship. Habib (2006: 10) suggests the concept of Academic Library 2.0, and clarifies Library 2.0 as a foundation to develop Library 2.0 services. In separating the terms 'Library' and '2.0' where 2.0 derives directly from Web 2.0, it is clear that the term describes the relationship between Web 2.0 and libraries. He defines Library 2.0 as a subset of library services designed to meet user needs caused by the direct and peripheral effects of Web 2.0. Xu et al. (2009: 330) proposed a Library 2.0 framework which is based on three components: information, users and librarians. The framework outlines the interaction between Web 2.0, Library 2.0, the librarian and the user, providing a two-way communication transmission of information.

Using an empirical approach, Xu et al. (2009: 325–327) surveyed the websites of 81 academic libraries in New York State to establish whether Web 2.0 technologies were adopted. They found that 42% adopted Web 2.0 technologies of which four academic libraries adopted Facebook to create virtual communities within the library environment. Members of these virtual communities mostly consisted of librarians and a few students as participants. They also highlighted the key qualifications and roles required by academic librarians in the digital age to encourage user participation (p. 329). Mahmood and Richardson (2011: 372) found an overwhelming acceptance of various Web 2.0 technologies in large academic libraries of the United States. They surveyed the websites of 100 member academic libraries of the Association of Research Libraries, United States of America and found Facebook and Twitter to be very popular, showing an increase in social media adoption.

Since then, several studies, globally, have been conducted to explore the adoption and use of Web 2.0 applications in libraries. For instance, Collins and Quan-Haase (2014: 63) researched the adoption of social media at university libraries in Ontario, Canada. Despite their finding that two-thirds of academic libraries maintained a social media presence on at least one platform, it was perceived as a low adoption rate. Chu and Du (2012: 66–70) explored the use of social media in academic libraries and found that 71.1% of academic libraries in Asia, North America and Europe had adopted social media, 13.1% planned to use these tools in the future and 15.8% had not adopted social media. Non-adopters reported on the challenges and difficulties experienced in adopting social media. These include limited time and resources and inadequate mastery of technology (Chu and Du, 2012: 72). The non-adopters reported that there were no benefits in using social media, primarily because students did not use the tools. Chu and Du

(2012: 70) also noted the limited use of social media as they are mostly used for communication and marketing purposes. Exploring the adoption and use of Facebook among Malaysian academic libraries, Ayu and Abrizah (2011: 239) employed content analysis to examine the uses of the library's Facebook page and found that three out of the 14 academic libraries use their Facebook page. Despite the overwhelming adoption rate of social media, low usage was reported. Similarly, Nesta and Mi (2011: 88) examined the websites of academic libraries in New Jersey and Hong Kong to document the adoption of Web 2.0 technologies. They found that the adoption process was not properly evaluated. The rush of academic libraries to adopt Facebook has to be weighed against the very low participation of their targeted users (p. 86). Measuring the value of academic libraries and students, Bell (2008: 45) encourages a design strategy for technological innovation and stated that many libraries are employing new technologies without due consideration of the feasibility, benefits and appropriateness. Likewise, an academic library in the United States, implemented strict regulations to control the misuse of computer facilities by students to access Facebook for non-work-related matters (Charnigo and Barnett-Ellis, 2007: 28).

Concurring with the findings above, Owusu-Ansah et al. (2015) note that social media platforms are adopted by academic libraries but used minimally for communication purposes. They examined the application of social media and Web 2.0 for research support in selected African academic institutions in four different countries. Their findings reported the use of social media at Rhodes University Library in South Africa as a result of a formal social media strategy, whereas the University of Education, Winneba Library in Ghana, Makerere University Library in Uganda and the University of Nigeria Library did not encourage the use of social media for research support but used it mostly for communication and interaction with colleagues. The authors discovered that the latter university libraries did not have a social media strategy in place. Tella et al. (2013), undertaking a survey on the use of social networking sites (SNSs) by academic librarians in six states of Nigeria, concur that academic librarians are making use of these sites to connect with other libraries and librarians. Their study uses the responses of 200 academic librarians and found that in terms of professional development SNSs provide opportunities for sharing knowledge and serve as a source of educational information. Knowledge sharing in librarianship is seen as a good means of professional development that could lead to innovation and creativity. Information that educates librarians on the latest development on various aspects of librarianship and information science are received from

SNSs and include workshops, seminars, congresses, conventions, conferences and training for better development and continued relevance (Tella et al., 2013: 284).

Geographic locations seem to play an important role in the popularity of specific technologies and social media (Collins and Quan-Haase: 2014: 51). Chua and Goh (2010: 203) researched the adoption of social media within the same geographic countries in public and academic libraries and found that libraries in North America were significantly in the lead and seemed more proficient in sharing information in all Web 2.0 applications compared with European and Asian academic libraries. At the time of their study, Internet usage in North America was at 69.7%, Europe at 38.9% and Asia at 10.7%. High Internet connectivity could have led to North American academic libraries aiming to meet the needs and expectations of university students. Twitter and Facebook were equally popular (Chu and Du, 2012: 66; Collins and Quan-Haase, 2014: 63; Kwanya and Stilwell, 2015: 100; Mabweazara, 2014: 73; Mabweazara and Zinn, 2016: 4).

Complementing these quantitative studies, AlKarousi et al. (2015) used a qualitative approach and conducted thirty-one interviews with library staff at four academic libraries in Oman. They found no benefits in the use of Web 2.0 applications in the library without students having a culture of willingness and awareness of how to use these applications. They state that there is an increased need for information awareness among students for academic libraries to highlight the actual benefits of using social media (AlKarousi et al., 2015: 11). Most academic libraries in Oman have not adopted Web 2.0 applications to enhance their services and reported social media as non-beneficial to their students' needs. One of the few studies conducted on this topic in South Africa notes the importance of Web 2.0 applications and its impact on the practice of scholarly research and emphasises the role university libraries play in supporting students' needs (Penzhorn, 2009: 1). Echoed by Mabweazara (2014: 65), social media tools develop innovative library services. Their study consisted of a comparative analysis using two academic libraries in two adjacent countries. It analysed the perceptions of 59 library staff members at the University of the Western Cape (UWC), South Africa and the National University of Science and Technology (NUST), Zimbabwe, and questioned the appropriateness of social media for service delivery. Respondents expressed the importance of adopting and using Web 2.0 tools to offer collaborative delivery of services with colleagues and students and keeping abreast with current trends in the profession (Mabweazara, 2014: 59).

Exploring the reasons for (non-)adoption of social media in academic libraries, the study conducted by Shill and Tonner (2003: 432) stresses the importance of environmental factors. Findings based on a survey of 354 academic libraries describe the types of projects undertaken to improve environmental factors. The authors found that adequate student facilities and services are needed to attract and retain students. Aging buildings lack the infrastructure required to permit flexible use of technology, while academic libraries have expanded their electronic resources and services. By making these services and the library's collections available to remote users, librarians have made it less necessary for students to visit the physical library to address many of their research and information requirements. Many libraries are examining the services they offer to ascertain whether these can be modified to better serve patrons (Sodt and Summey, 2009: 105). Therefore, strategic planning forms part of the decision-making process. Ganster and Schumacher (2009: 115–116) demonstrate the planning stages for the use of Facebook at the University of Buffalo Libraries using customisable applications. Facebook offers a basic page customisable template allowing page administrators to edit and update the Facebook page as well as have control over permissions by keeping a single presence to represent the university libraries as one entity.

Research methodology

Analysis of interviews: Emerging themes

Purposive sampling was used for this study, based on differences in terms of geographic region. This type of sampling is strategic to establish good communication between the research questions and sampling; the researcher samples on the basis of interviewing people who are relevant to the research questions (Bryman, 2004: 333). Purposive sampling has a purpose and involves handpicking cases to form samples that researchers deem satisfactory for their needs (Trochim, 2006: 56). It is used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest (Palinkas et al., 2015: 533). Creswell (2014: 19) describes qualitative research as a narrative design with open-ended questions; the researcher seeks to examine an issue where information is collected.

To obtain the sample, personal invitations were submitted to social media administrators from three academic libraries in Flanders and three in South Africa. The sample was based on the following criteria:

Respondents were heads of departments or library professionals responsible for managing and updating social media content; Respondents considered themselves to be knowledgeable on one or more social media platforms; Respondents expressed a willingness to participate in the study.

Researchers engage in projects involving interpretation of unstructured or semi-structured data which may include exploration, description, comparison, pattern analysis, theory testing, theory building or evaluation (Bazeley and Jackson, 2013: 2). Qualitative methods are chosen in situations where a detailed understanding of a process or experience is wanted, where more information is needed to determine the boundaries or characteristics of the issue being investigated, or where the only information available is in non-numeric form. Such investigations typically necessitate gathering intensive and/or extensive information from a purposively derived sample (p. 2).

When conducting qualitative research, one has to consider one's own position, i.e. are you entering the field as an insider or outsider. An 'insider' is a researcher who personally belongs to the group to which their participants belong, whereas an 'outsider' is not a member of that group (Dwyer and Buckle, (2009: 55). This queries the value and significance of both insider and outsider positions (p. 58). For the purposes of this study, I consider myself an insider having 32 years' experience in the profession and in many ways share similar viewpoints with participants.

To gather participants' meanings and ideas on the topic, I relied on the judgement and experiences of respondents to provide insight and depth to the results, outlining their perceptions on and understanding of the use of social media. Interviews were recorded and lasted between 35 and 75 minutes. Interviews were transcribed and data were organised and coded into theme nodes, using NVivo. Interviews were held between June 2015 and November 2016.

Interview methods

Selecting informants for qualitative research was relevant for gathering ideas and perspectives of respondents regarding their academic libraries' social media practices. The purposive sampling technique is a type of non-probability sampling that is most effective when one needs to study a certain cultural domain with knowledgeable experts within.

In Belgium in-depth semi-structured, one-on-one, face-to-face interviews were conducted with respondents residing in Flanders.

In South Africa, initially, Skype seemed an effective medium of communication to reach distant library professionals in South Africa, but owing to access limitations, such as computer settings, various other means were implemented. The following methods were employed with respondents residing in South Africa: in-person, face-to-face, telephonic and Voice over Internet Protocol (VoIP) interviews were conducted. VoIP calls included Skype and WhatsApp calling systems to suit individual respondents. Bryman (2004: 326) terms the distance interview process as the telephonic interview method. Coupled with the distance interview process, the VoIP system portrayed by Cater (2012) allows individuals to use Internet connectivity to make video or audio calls, thereby allowing interviews from anywhere in the world as long as the respondent has access to a telephone or computer with a headset or webcam. Hanna (2012: 239) provides insight into the use of Skype to reap the same benefits as the traditional face-to-face interview process in qualitative research.

Interviews were held with sixteen consenting respondents, eight from Flanders and eight from South Africa. The study ensures anonymity and pseudonyms were used to conceal the identities and personal information of respondents. The sample consisted of three males and thirteen females. Their ages ranged from 25 to 57 years. The designations of respondents ranged from library assistant to assistant director, which allowed for the construction of knowledge and expertise to provide an interpretative approach of realism.

The responding academic libraries in this research were located on various campuses where social media profiles are either designed to cater for the library as a whole, or are campus or subject specific. Social media profiles were created under the banner of the university and conformed to the prescriptions of institutional branding; they were managed by a team of experts or selected individuals.

Universities in Flanders and South Africa. Due to a confidentiality agreement with one academic library, I cannot disclose the real name of this institution. It was agreed to use a pseudonym to protect the university's/library's identity. The following references are used in this article, 'Gauteng University' or 'Gauteng University Libraries (GUL)'.

The University of Antwerp originated after a merger between three separate institutions in October 2003 (University of Antwerp, 2016). As the third largest university in Flanders, the University of Antwerp has approximately 20,350 students (University of Antwerp, 2016). The Free University of Brussels was founded in 1970 and is a modern university with two campuses in Brussels and has approximately 18,500 students (Vrije Universiteit Brussel, 2016). The Catholic University of Leuven is situated in the heart of Western Europe and is one of the oldest and most renowned universities in Europe. The university caters to more than 40,000 students (Study in Flanders, 2016).

The Gauteng University is one of the largest universities in South Africa. The university serves more than 50,000 students in the suburbs of a major city. The Cape Peninsula University of Technology has humble beginnings dating to the early 1900s. The institution was established on 1 January 2005, when the Cape Technikon and Peninsula Technikon merged. It is the only university of technology in the Western Cape and serves more than 30,000 students (Cape Peninsula University of Technology, 2016). The merger between the University of the North (Turfloop) and the Medical University of Southern Africa (Medunsa) occurred in January 2005 and the institution was renamed the University of Limpopo. Both campuses are situated in the middle of densely populated old 'home- land' areas. The University of Limpopo serves approximately 20,000 students (Southern African Regional Universities Association, 2007). Since the merger there were ongoing discussions about a demerger. The University of Limpopo was officially demerged on 1 January 2015 and the Turfloop campus retained the name.

Results

This section interprets the data collected from six university libraries in Belgium and South Africa using a qualitative interview process. The main objective of this study was to investigate the adoption and use of Web 2.0 technologies, Facebook and Twitter, for academic library purposes. Against the background of the latter objective, this section presents the responses seeking the perceptions of library professionals on the adoption and non-adoption process and use of social media. Furthermore, answering the three research questions, the adopters created professional identities within their academic library environments to enhance information dissemination. Social media offer additional methods of communication and information sharing, implying ease of use to suit the needs of the student population they serve. Respondents expressed their views regarding non-adoption and the challenges faced in keeping abreast with changing technologies.

Theme 1: Adopters and non-adopters and the use of Web 2.0 technologies by academic libraries

Two types of presences were portrayed: an institutional library presence (adoption), used for library user engagement, and a non-presence (non-adoption). All three of the Flemish academic libraries, UAL, FUBL and CULL, were adopters of one or more social media. Two of the university libraries in South Africa, the GUL and CPUTL, were adopters of at least two social media whereas the ULL constituted a non-adopter and played an inactive role in social media. The adopters in this study were active users of social media.

South African academic libraries, like those in Flanders, were using one or more social media platforms to ensure that users were reached on a medium convenient for them. The adopters had official Facebook and Twitter profiles accessible through the library's webpage. These academic libraries provided access to students through WiFi connectivity or stand-alone computers in the library, except for CULL, which provided both stand-alone computers, laptops and tablets at some campuses. As one of the respondents, pseudonym of respondent = Bryson (Library = CULL, gender = m, age = 37) shared:

“The library uses Facebook and Twitter a lot to communicate with our students. We submitted a survey to the students regarding our website and even though it is perceived as ‘ok’, students really know the library from our Facebook and Twitter pages”.

Adoption: Facebook and Twitter

Different types of social media platforms afford different kinds of interaction and information provision. As a result, academic libraries must integrate various social media platforms to develop and maintain successful social media profiles (Collins and Quan-Haase, 2014: 64). Academic libraries post news and events information on Facebook and Twitter in an attempt to reach a wider student audience. It is logical to assume that different users may have accounts on different Web 2.0 applications because of their varied interests (AlKarousi et al., 2015: 7). Although academic libraries in Belgium adopted and implemented popular social media such as Facebook and Twitter, Facebook seems to be more widely used owing to its ease of use. For instance, Charmaine (CULL, f, 26) states:

“We use Facebook, as it is really easy to use and nice to connect with your students when we share information about studying or general information about what is happening in the library”.

The analysis confirms Davis' (1989: 331) concept that accessibility and identification of ease of use are positively related to user acceptance of a specific technology. Compared to Twitter, some academic libraries viewed Twitter as a medium of communication that presents ease of use whereas others felt it was complicated. Twitter is a microblogging application (Akinola, 2015: 181) and allows the transmission of short messages of up to 140 characters and keeps followers updated on daily activities, events, news, contributions and comments (Ogunleye, 2015: 212).

While Twitter is a relatively new tool, it appears to have caught up with Facebook in terms of popularity in academic libraries (Chu and Du, 2012: 67). Citing similarities as well as differences, the Flemish academic libraries expressed their views on the unique features offered by Twitter while still providing students with a Facebook platform for relationship building.

Concurring with the latter statement by using a medium of communication that is known to students, Bryson (CULL, m, 37) states:

“Most of the students use Twitter so if you want to get the message out fast and wide, you use those two media. We want something more lasting and for the Catholic University of Leuven Libraries we put it on our website but if we want to communicate information urgently to our students, we use our Facebook and Twitter accounts”.

The UAL uses Twitter exclusively for its special collections, as it is a platform to network ideas and topics.

“I wanted the opportunity to communicate more specifically and I had a feeling that Twitter was the better medium to do that. Twitter is smaller and less fixed than the big Facebook page”. (Xavier, UAL, m, 33)

FUBL has a Twitter account for the entire university's libraries with the freedom of branch libraries to create social media profiles on other social media platforms catering specifically to their students' needs.

“We use Twitter; it is one Twitter account for the whole university library”. (Tara, FUBL, f, 37)

Another respondent felt differently:

“I don’t know whether the information on Twitter reaches our students or not. I know students use Facebook; therefore, I created a Facebook page exclusively for this campus”. (Mila, FUBL, f, 40)

One of the respondents from CULL expressed the importance of assessing user needs, stating that academic libraries need to choose the right channels of communication suited to their target audience. The library at one campus of the CULL, which caters to the Faculty of Theology and Religious Studies, has an older clientele:

“Our users are professors and mostly elderly students, who find it hard to work with technology and rather prefer print material”. (Irvin, CULL, m, 25)

Catering to their needs requires different approaches. Irvin (CULL, m, 25) explained the various approaches used to reach their audience:

“It is difficult to communicate with all your visitors (students and the general public) because older people do not have Internet at home. They need physical communication. On the other hand, the students prefer online communication, so Facebook would be suitable for them”.

From a South African perspective, Twitter was seldom used because of its intricate nature; it did not present ease of use as indicated by one of the respondents. CPUTL reported low usage of their Twitter platform. One respondent noted the following regarding users’ social media preference:

“The library has both a Facebook and a Twitter account. The lecturers and students prefer Facebook, so I use a medium that the students are familiar with”. (Sharna, CPUTL, f, 44)

Similarly, noted by Lisma (GUL, f, 57), GUL adopted both Facebook and Twitter and presents an innovative use of these platforms to engage with students, to promote the library’s resources in support of teaching, learning and research. Aware that everyone does not ‘like’ or ‘follow’

the library on social media, the library is conscious of the importance of attracting students and of considering new innovative means of communication. This ever-evolving phenomenon could become a part of library and information services as GUL strive to ensure their visibility by catering for different students on a variety of platforms suited to the students' preference.

Non-adoption: University of Limpopo

As noted above, although the ULL did not have a social media presence, respondents perceived Library 2.0 as a trendy and innovative means of communication.

“I have submitted a request to adopt Library 2.0. It is very hard for us to reach out to the students who are advanced in technology when we are not even visible”. (Cassie, ULL, f, 36)

Respondents from ULL seemed positive and hopeful that Library 2.0 would be implemented in the near future; however, there was an element of doubt and scepticism as one respondent envisioned that it was most unlikely that these would be adopted soon:

“I am not sure how much time it would involve during the planning phase”. (Aisha, ULL, f, 47)

Similarly, Chu and Du (2012: 71) note the financial and time implication, ‘time and manpower costs were considered to update information and monitor incoming messages’. Although the ULL can make use of the university's social media platforms, under the guidance of the Marketing and Communication Division, the general consensus was that the library should have its own social media platforms. When asked about these platforms, respondents were in favour of adopting both Facebook and Twitter to ensure that students were reached on platforms they were comfortable with. In envisioning the future, it is clear that librarians from ULL are eager to move to a more digital library environment; however technological limitations hinder this, and therefore the ULL stagnate at a certain point.

“Facebook is much needed because it can be used to market resources and advertise information literacy training”. (Tina, ULL, f, 37)

Theme 2: The application of Web 2.0 technology in academic libraries' operations and services

Respondents had different roles of specialisation, and these provided a broad spectrum of where and how social media could be used in academic libraries. Social media were used to communicate to their student clientele as well as for linking, liking and following other libraries' pages to keep abreast of developments in the field, and also to share and retweet information among library professionals. Some examples:

“I would sometimes share book products, for example, I recently shared information about the ‘Rapport Boekprys’. I keep students informed about scholarly information, university news, library updates, new library resources and articles of interest as well as photographs. Most importantly, I invite students to participate in competitions. I also post information about staff members and staff member news and events, for example I made a book of our librarians for ‘Librarians Day’ and then I shared that clip”. (Lisma, GUL, f, 57)

“I follow many special collections libraries and colleagues. What I specifically like about the use of Twitter is the option to give an opinion or enter or follow a debate with people”. (Xavier, UAL, m, 33)

Most of the respondents would post three or more times per week for academic purposes. Participants perceived social media to be very helpful in terms of information sharing, as Imelda (CULL, f, 37) explained:

“We post information such as changes in opening hours or infrastructural changes ... we have a new area that is currently under construction ... so that’s how we inform [students] about it. It really is a communication tool. So, it is more informative than just random posts”.

Similarly, in the study of Chu et al. (2011: 53), the respondents felt that Library 2.0 was an effective tool for communication. Academic librarians reportedly shared information about new books and newly acquired databases, as it was convenient, easy, and much faster to convey information in this manner than via email. Likewise, students seem to prefer social media to email as a medium of communication.

“When society changes, technology changes. The new generation of students are using social media, which is a platform that they are familiar with. For example, after tracking students for six months via their student email, with no response, we managed to get feedback from them via Facebook”. (Ashley, CPUTL, f, 52)

The academic libraries at the Catholic University of Leuven and the Gauteng University are part of the largest universities in Belgium and South Africa, and appear to have similarities in their approach to social media. Both academic libraries designed a strategy plan. CULL formed a Web-strategy team to assist with planning of social media and the library’s webpage. Their planning committee comprises all the administrators of their social media pages. This Web-strategy team ensures that the workload is shared amongst administrators, especially when designing social media content of a similar nature for all campuses.

“Having a representative from almost each campus library ensures a uniform standard agreed upon by everyone”. (Charmaine, CULL, f, 26)

However, respondents at CULL felt somewhat restricted owing to a standardised social media template designed by the library’s information technology personnel. The purpose of the template was to ensure that the university’s branding, format and layout remained consistent across social media platforms on all campuses to ensure homogeneity. However, social media administrators at CULL do have leeway and freedom to post on social media as well as effect changes to their opening hours, events and communicate with students accordingly. This is reminiscent of the policies discussed by Ganster and Schumacher (2009: 115–116) in keeping a uniformed interface where key items such as library hours, contact details and popular links were included on the university’s Facebook page. Like CULL, GUL formulated a New Strategic Plan for the academic years 2016 to 2018. Included in their New Strategic Plan is the social media team task team consisting of four staff members, Lisma (GUL, f, 57) provided an overview:

“We have a coach which is one of the executive members, so all our plans are submitted via our coach. We had definite objectives and also what are the outcomes. My first objective was to report on the current social media tools at our institution, so my outcome was a report to show what we are currently doing. The action was to determine which social media tools are being used. We conducted a student survey and their use

of social media, and we also had another interesting report on the research of social media tools. All of these are discussed with our different faculty library members so that they are also aware of the social media tools that researchers [and students] are interested in”.

Theme 3: The challenges faced in keeping abreast with changing technology or remaining current with new developments within the profession: South Africa

ULL faced major challenges compared to the other academic libraries in South Africa and Flanders. Respondents at ULL felt that social media were already widely used by students and concerns were expressed about the future of the ULL and its dated infrastructure. One of the respondents, Aisha (ULL, f, 47) explained that students articulated this problem at a meeting:

“The Student Representative Council noted that they were not getting notifications on training. They were assured that the library pastes hardcopy notices at the residences and all the popular places where students are usually gathering. They have now posed a request that ULL post information about training and events on social media”.

At the University of Limpopo, both staff and students were restricted to the use of social media during core working hours. Due to internal environmental factors such as limitations on the university’s network and inadequate monitoring tools to monitor the use of Facebook and Twitter, social media were only accessible after hours.

“Social media were accessible from 16:00 until 08:00, whereas the library’s core working hours were from 07:30–16:00”. (Skylar, ULL, f, 40)

Library professionals agreed that these restrictions run counter to engaging with students by using innovative methods:

“We would like to have access to most networking sites but until the restrictions are lifted we cannot implement or adopt Library 2.0”. (June, ULL, f, 41)

The challenges faced by academic libraries concur with international and national research findings by the Taylor and Francis Group (2014: 6) which found that external factors such as

Internet connectivity and technological infrastructure may restrict access and the use of social media.

Library 2.0 adopters reported minor restrictions. Respondents at CPUTL reported some restrictions and noted they were limited in respect of data and connectivity. 3G cards and personal data on smartphones were used in some instances when technology failed. 3G, the third generation of mobile technology, is a mobile communications standard that allows mobile phones, computers and other portable electronic devices to access the Internet wirelessly. Mobile services are provided by service providers that own and operate their own wireless networks and sell mobile services to end users, usually on a monthly subscription basis (Lehr and McKnight, 2003: 353–354). Apart from poor technology being an external factor, human resistance to the use of technology was also experienced at CPUTL, explained Sharna (CPUTL, f, 44):

“Some lecturers are against using new technology which is a challenge, as well as using their own data and equipment. Some people are more comfortable with technology that they are accustomed to, so social media is a challenge for them and that is something hopefully that we will address”.

This confirms Nkomo’s (2012: 108) findings that more students than academics receive formal Internet or Web training. In this respect, academics appear neglected. Collins and Quan-Haase (2014: 64) noted that the staff resources were one of the challenges in ensuring the maintenance of social media. The appointment of dedicated ICT library staff was perceived as contributing to a better performing library.

“I think the problem is, the library does not have dedicated ICT library staff. Whatever we want to publicise, technologically, has to go through the university’s ICT department”. (Cassie, ULL, f, 36)

Respondents from Flanders painted a different picture, with only minor interruptions recorded. Emma (UAL, f, 36) indicated that their resources, connectivity and ICT personnel were at hand when required:

“We have our own specialist team and there is also the ICT department of the university. So, if we have technological issues, they are resolved by those two departments. The university sees to it that we have the technology and necessary resources”.

Discussion

The study employed a qualitative methodology to investigate the adoption patterns, extent of social media sites Facebook and Twitter, and the use thereof among academic libraries in Belgium and South Africa. The main objective of the study was to compare and analyse the adoption and usage of Web 2.0 tools at selected universities in Belgium and South Africa. The findings suggest that most academic libraries, in this study, are active users of social media. Despite the low bandwidth and infrastructural challenges faced by the University of Limpopo, library professionals are eager to adopt the technology, which would be appealing to their student clientele who seek visual content for academic purposes as images have become important for user engagement. Additional barriers could include poor wireless connection, understanding how content works on social media and lack of social media skills which are essential for the administrators of such platforms. The transformation and revolutionary change is evident, as academic libraries must constantly prove their worth by creating and adding value to their services in keeping abreast with user needs and technological change. Concurring with Mabweazara (2014: 65) social media provide a ‘harmonious sharing of ideas’ as ‘interaction leads to fusion of ideas helping libraries to grow’. Social media have evolved from a mere communication platform tool to an interactive, resource-sharing tool. CPUTL has a social media presence with minimal disruptions and infrastructural problems. However, the intricate nature of some platforms causing resistance among academic staff members is key, given the innovative changing nature of these platforms, ascertaining how the technology can be used for academic purpose and implementing employee-training modules. GUL reported freedom and autonomy to populate their social media pages within the scope as prescribed by their New Strategic Plan. Keeping their social media pages alive and encouraging user participation, GUL creates a conducive environment by ensuring cutting edge technologies are implemented and operational. This is in line with the scope as provided by CULL as academic libraries have to adapt modern, innovative methods of communication that is available 24/7 to cater for students’ needs. Facebook and Twitter seem to be widely adopted in Belgium, as the quality of infrastructure is highly secure.

The comparative study by academic libraries in Belgium and South Africa revealed three important findings. Firstly, the study revealed that Facebook was less intricate and more user-friendly than Twitter; even though most participating libraries had both Facebook and Twitter accounts, seemingly Facebook will continue to have a popular role among academic libraries. Secondly, the use of visual content, short messaging and video clips provides students with the ability to seek useful information, to connect with academic libraries as it is convenient to access information through these mediums, also noting the response or turnaround time is significantly faster. Thirdly, it is important for academic libraries to have a social media presence on one or more platforms to promote the library's services, resources, and training events in order to stay abreast with the needs of their student community and to enhance their presence.

Conclusion

Although this study was based on a small sample size using purposive sampling, I was able to identify three themes on issues relating to adoption and non-adoption of social media, the application of Web 2.0 technology as well as challenges faced by academic libraries in relation to non-adoption. This study provides the detail from the perspective of the participating academic librarians in Belgium and South Africa to help understand the adoption and non-adoption of social media. By analysing their perceptions on the use of social media, I was able to identify that technological deterrence plays a major role in the non-adoption process. Furthermore, this study was to investigate the adoption and non-adoption of Web 2.0 technologies in an academic library environment and to ascertain their usage. The components within the theoretical framework by Xu et al. (2009: 330) depicted Library 2.0 as an interactive collaborative tool where two-way communication between academic libraries and students was present. Huvila et al. (2013: 198) note that Library 2.0 changes the way libraries interact with their users and agree that technological developments on the Web have a major influence on these changes. Perceived ease of use as well as adequate and inadequate financial resources played a vital role in the rejection or acceptance of Library 2.0.

South Africa

The observations by Charnigo and Barnett-Ellis (2007: 23), where librarians felt social media did not suit the professional landscape of academic libraries, are no longer valid. Academic libraries have changed their perceptions of the use of Library 2.0 since its inception (Kwanya et al., 2009: 70) and social media seem to have been revolutionary in transforming the library profession, with the exception of the ULL where funding and dated infrastructure were viewed

as significant barriers. Likewise, Chu et al. (2011: 49–53) note that cost seemed to have an impact on the adoption of Web 2.0 technologies, which may reflect the lack of interest in implementing social media. These internal environmental factors hampered the adoption process. An intervention from the university's executive management is critically needed to increase bandwidth capacity and optimise flow of data at ULL. Similarly, in the study carried out by Nkomo (2012: 108) due to low bandwidth, the use of electronic resources was limited. On these grounds it is assumed the adoption of Web 2.0 technologies is limited in certain academic libraries because of internal and external environmental factors. Smidt and Sursock (2011: 49) noted the importance of lifelong learning at academic universities in Europe, expressing that the use of the Internet has changed considerably and in order to adapt to social needs the university must rapidly and constantly improve its learning methodologies. Institutional mergers did little to equalise resources among university libraries (Nkondo et al., 2014: 69) and these challenges impact negatively on the quality of the educational experience of the student. The inequalities faced by historically disadvantaged institutions should be addressed nationally. In this global digital age, those who are unable to access ICTs are increasingly disadvantaged as the world's dependence on them grows in all spheres of human activity. Mabweazara and Zinn (2016: 5) stated that librarians who had better Internet connectivity, a well-maintained and bigger ICT infrastructure, were frequent users of social media. Furthermore, South African universities play a pivotal role in offering diverse learning opportunities for those who face disproportionate socio-economic challenges.

Belgium

As indicated by the Flemish universities, this study emphasises the importance of library ICT personnel to assist with the adoption and maintenance of Library 2.0. Academic libraries in South Africa should view the importance of keeping abreast with new technological developments and human resources. Realistically, assessing the new generation, Kwanya and Stilwell (2015: 95) expressed the importance for academic libraries to embrace Web 2.0 technologies as students might find academic libraries, which have not embraced the technology as 'insensitive, archaic and unusable'. The research suggests that Library 2.0 be used as a support structure to enhance the library's services and to facilitate liaison between the library and students. Even so, the adoption of Library 2.0 requires strategic planning and a needs assessment to inform decision-making and to ascertain if the technology could be sustained by the library. Library 2.0 forms part of the librarianship evolution and that job descriptions should be updated to recognise the change in the profession. Looking to the future, Kelly and Glazer

(2013: 34) point out that the evolution of social media has played a significant role in developing public relations, promotion and outreach opportunities and furthermore stimulating the impulse to use social media by assuming unique responsibilities to ensure visibility on new virtual spaces.

Joint conclusions

The findings of this study, according to the perceptions of adopters and non-adopters, are homogeneous. The research provides an understanding of the acceptance of Library 2.0 as a tool for communication based on virtual and interactive engagement. Library 2.0 tools might be a step closer towards catering for the needs of the younger student generation. This research provided information that is both new and current, and supplementary to the existing literature.

The study does have limitations. The population was limited to academic librarians and future research could include the faculty and students to assess user requirements and their perceptions on the use of Library 2.0 in academic libraries. As indicated above, the study identified internal and external environmental factors as a major barrier in the adoption process of Library 2.0 at one academic library. The study only researched one academic library in a rural geographic area and could not ascertain if geographic location had an influence on non- adoption. Future comparative research could be conducted using a broader sample among adopters and non-adopters in rural areas to understand facilitating conditions in Flanders and South Africa and to gain a broader perception on geographic region. Due to the small sample size, this study has shown little disparate differences between the Flanders and South African academic libraries; however, the South African libraries have not embraced the technology to its full potential and further studies could be conducted.

CHAPTER FOUR: STUDY 2

Social media, diffusion of innovations, morale, and digital inequality: A case study at the University of Limpopo Libraries, South Africa

Abstract

Purpose – The purpose of this paper is to explore social media usage in an academic library in South Africa and the factors influencing its use. The primary goal of the study was to examine perceptions surrounding the impact of non-adoption of social media on morale, and to explore the consequences of digital inequality.

Design/methodology/approach – Using a qualitative method, in-depth interviews were conducted with a small sample comprising six key informants at the University of Limpopo Libraries.

Findings – The findings suggest that non-adoption of social media has a negative influence on morale, and that it is a very necessary tool required for interaction with students as well as promotion and marketing of the library's resources.

Research limitations/implications – This paper is limited to one academic library in South Africa situated in a rural area. The research suggests that more academic libraries in rural areas be studied to ascertain if geographical location and finance are barriers to social media adoption.

Originality/value – This study addresses non-adoption of social media and suggests ways to improve employee morale and retention. The research contributes to current research.

Keywords: Academic libraries, Social media, Digital divide, Environmental factors, Employee morale, Non-adoption Paper type Case study

Reference

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Introduction

There have been numerous requests from both library professionals and students to implement social media in the library's communication to its students. The first author, a senior librarian, had the opportunity to work with employees at University of Limpopo Libraries (ULL), and being part of a non-adoptive social media environment, the first and third authors, employed at the University, were led to research how librarians feel about being excluded from these platforms. The main purpose of this study was thus to examine the impact and perceptions on employee morale in respect of the banning and blocking of social media during core business hours. Based on six narrators' stories, we discuss the barriers preventing them from exercising the growing need to implement new and innovative technologies. Rural areas are characterised by underdeveloped information and communications technology infrastructures, the high cost of telecommunications, unstable and unreliable power, densely populated areas, low-income levels, few roads and limited means of transport (Kapondera and Hart, 2016: 13). Similarly, Nkondo et al. (2014: xxiv) define the digital divide as "the gap between people with effective access to digital and information technology and those with very limited or no access at all. It includes the imbalances in physical access to technology as well as the imbalances in resources and skills needed to effectively participate as a digital citizen".

Of the nine provinces in South Africa, Limpopo is the fifth largest province, with the highest population of young people in the country. Tertiary institutions in rural provinces can be classified as historically disadvantaged institutions (HDIs). It should be noted that the University of Limpopo (UL) belongs to the category of universities in South Africa that are referred to as HDIs. HDIs are typically marked by limited resources, certain kinds of curricula and approaches to teaching and learning, and tend to be educationally and socially benevolent and accessible to the average student (Kaburise, 2014: 8). A study conducted by Osunkunle (2010: 381) noted the disparities between HDIs and historically advantaged institutions (HAIs) in South Africa and focussed on the digital inequality at the UL. Although South Africa has been a democratic country since 1994, there are still several inequalities dating from the apartheid era (Mnkeni-Saurombe and Zimu, 2015: 45). The uneven distribution of libraries is a consequence of the historical imbalances of the past, based on the racial and urban-rural divide of the apartheid regime (Nkondo et al., 2014: 1). Living in a non-urban setting has both socio-economic and educational repercussions, referring to limited opportunities and access to libraries to groom learners for tertiary education (Kaburise, 2014: 15). This is a determinant of unsuccessful tertiary performance.

The paper addresses how the diffusion of technology, such as social media, affects an individual's morale. Based on Rogers' theory on diffusion of innovations (DOI), classifying adopters and non-adopters, this paper suggests that incorporating social media into the academic library's operations and services will be based on the need as prescribed by the library. Being part of an academic university who is an adopter of social media, the library, as a non-adopter, can be classified as a late adopter. The study addresses the following research questions (RQs):

RQ1. What are the factors that hinder the social media adoption process?

RQ2. What effect does non-adoption of social media have on employee morale?

This study concentrates on low employee morale as well as internal environmental factors likely to discourage innovation. Nelson (2014: 78) notes that time and money invested in the professional development of each employee are reliable ways to improve work performance, employee morale and the status of the library on campus.

Diffusion of innovations (DOI) theory

Although adopters of social media, Facebook and Twitter, UL prohibits the use thereof during core business hours. These platforms are managed by the Marketing and Communication Department but due to the ban on social media, the department invested in WiFi connectivity to disseminate information. Moodley et al. (2015: 80) look at best practice for blended learning, incorporating social media, at a rural university. They identified barriers such as poor internet connectivity and lack of computers, which are exclusive challenges to a rural environment. Furthermore, in this study, the ban on social media is a result of low bandwidth and misuse of social media for non-academic purposes. The views of academic librarians are to promote self-efficacy, technical skills and to attract students. Academic libraries are beginning to incorporate social media to promote information sharing and bring services closer to their users (Quadri and Idowu, 2016: 38). It is against this background that this study investigates the non-adoption of social media, Facebook and Twitter, for information dissemination at an academic library and the impact thereof. To study the challenges, the research draws on the DOI theory designed by Rogers (1995: 4). Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. He categorises adopters as:

- 1) Innovators: venturesome – are obsessed with innovations, eager to try new ideas.
- 2) Early adopters: respectable – are an integrated part of the local social system that are innovators.

- 3) Early majority: deliberate – adopt new ideas just before the average member of a social system.
- 4) Late majority: sceptical – adopt new ideas just after the average member of a social system.
- 5) Laggards: traditional – are the last in a social system to adopt an innovation.

South Africa's historically disadvantaged university libraries are challenged to meet the demands of staff through the provision of relevant infrastructure, services and information-related skills to enable staff to function in the digital information age. The study conducted by Nyahodza and Higgs (2017: 39) at the University of the Western Cape Library indicated two levels of the digital divide: the global digital divide within a developing nation, and competing with a relative scarcity of skills and resources within the "local divide" as a legacy of apartheid. While the institution does make an effort to bridge the digital divide, emerging as a competent agent of democracy in meeting the demands of staff, other challenges of slow internet connectivity were acknowledged as a major issue. Although the library is engaging in various projects to improve access and skills, political and economic issues in South Africa could contribute to an increased digital divide if student protests persist and the economy does not stabilise. Through the provision of relevant infrastructure, services and information-related skills to enable staff and students to function in the digital information age, the library can be viewed as a role player in human freedom through the provision of technologies to sustain the marginalised members of its academic community (p. 46).

Focussing on South Africa in a broader perspective, Bornman (2016) embarked on a longitudinal study and observed the slow progress in internet usage between 2008 and 2011 with only slight improvements. Underlying the complexities of the digital divide in South Africa, a continent that is already disadvantaged in respect of infrastructure and skills, Bornman indicated that South Africa had a long way to go towards becoming an information society, citing a downward trend in computer usage. This tendency could indicate that user-friendly devices such as tablets and smartphones are increasingly replacing computers (pp. 275-276). It can further be assumed that mobile internet usage has become widely available and has had a considerable impact on internet access and use, despite cultural and social barriers related to information-related needs and skills (p. 276). Being technologically savvy was mostly prevalent among males and white females, whereas most black females did not own smartphones. This is

as a result of the perceived traditional role of African females and their placing less emphasis on information-related needs and skills.

Accommodating the information-seeking behaviour of Generation Y students

A new generation, called Generation Y, is embracing technology with such fervour that a new culture of technology has emerged. This culture defines how people communicate, collaborate, and incorporate technology into daily activities. Williams (2020: 147) concurred that the Generation Y students are technologically savvy and prefer social media to cater to their educational needs. They are demanding more flexibility in using technology to bridge social and academic activities. Librarians face new challenges as they adapt to this generation while continuing to serve the interests of less technology-connected students (Allison, 2013: 23-26).

Arif and Kanwal (2016: 27) conducted a study of the adoption and use of social media technologies and their impact on the performance of distance-education students in Pakistan. They found that students at higher education institutions used social media for freedom of expression, communication, awareness and political engagement. Using social media to their advantage was instrumental, as students were more expressive when communicating on these sites, as opposed to traditional media such as electronic mail. Students considered social media as instruments to promote democracy. They found social media easy to use and had the necessary resources and knowledge to use social media. Subjective norms seem to indicate a perceived social pressure to use the technologies, indicating a significant change in their behaviour (p. 32).

The role of academic libraries and library professionals is changing (Harrison et al., 2017: 248). Appropriate skills and hands-on training on the latest trends in technological applications should be organised accordingly for librarians or staff in charge of social media to upgrade their skills, experience and knowledge to ensure they are up to date in digital competence. As there are many social media tools and applications available with different features and benefits, academic libraries should keep abreast of these technologies in order to reach out to students through using multiple delivery systems proactively. To clarify this, in a qualitative study, Raju (2014: 167) analysed job advertisements appearing in a South African newspaper to establish the knowledge and skills required for library and information science (LIS) professionals to practice in a digital era academic library effectively and efficiently in South Africa. She reported that a variety of skills are required of the modern LIS professional including social media

competencies. As such, library professionals in the twenty-first century should be equipped with hard and soft skills to face the challenge of students' needs and expectations now and, in the future, (Shafawi and Hassan, 2018: 25-26). Shafawi and Hassan tested user engagement with social media and monitored library usage. The results indicated that the relationship between user engagement with social media and actual library usage was positive. They further determined that frequent user engagement with social media encouraged actual use of the library resources and services (pp. 21-22). As academic libraries are serving a "web generation" of students with advanced computer skills (Ngcobo, 2016: 60), "it is imperative for academic libraries to embrace technology and tools such as social media". Harrison et al. (2017: 250) note that Generation Y requires constant validation of their desires and accomplishments in life. In addition, social media can empower the Generation Y students, giving them control over their interactions and expressing more confidence than would be possible in personal situations.

Employee morale

Positive organisational behaviour (POB) can be used in the workplace to promote the strengths and skills of employees in the belief that it increases work productivity and improves employee morale while reducing stress and burnout of employees (Baker, 2015). Baker stated that leaders should lead by example when demonstrating and modelling POB (p. 9). "Authentic leadership" displays genuine, trustworthy and honest high moral standards and leaders should work transparently. In particular, Baker challenges library leaders to model optimism and self-confidence when dealing with times of uncertainty and unpredictability (p. 24), as libraries face challenges in a changing society. The confidence of the leader can saturate and strengthen the employees. In addition, training and development in university libraries can promote employee morale and employees may function as role models for their subordinates (p. 12). Additionally, social capital linked to relationship building is important in developing the university community to form networks, thereby establishing norms and creating trust (p. 19). Likewise, Bornman (2016: 265) favours integration into the information society as it holds positive social and economic consequences, such as an improvement in productivity and work performance. However, low levels of ICT usage among many South Africans emphasise the need to transform South Africa into an information society.

Digital divide and social media engagement to increase library usage

Over the past two decades, many academic libraries across the globe have transformed into e-libraries; this includes the use of online scholarly publications coupled with social media engagement. Information is easily retrievable using mobile technologies and social media collaboration (Jain and Akakandelwa, 2016: 145). To fit into this new information landscape, academic librarians have assumed new roles and skills. Major challenges such as financial constraints and insufficient ICT infrastructure, poor library and information resources, slow acceptance of open-access resources and resistance to change could hamper transformation. Academic libraries have to continuously evolve and change as technology drives futuristic thinking (p. 146). However, Mojapelo and Dube (2017: 215) found that most higher education libraries in South Africa are still distinctly divided with regard to their user-groups and ecosystems, and that these divisions deny multiple users, both employees and students, the opportunity to access information resources equitably to meet their daily information needs. In bridging the digital divide, Osunkunle (2010: 380) noted the establishment of digital villages (ICT resource centres) that contributed to development in South Africa.

Similarly, Quadri and Idowu (2016: 30-31) emphasised that university libraries of South-West Nigeria were making efforts to integrate Facebook and Twitter into the library's services to disseminate information. Furthermore, they (p. 31) observed that social media are rapidly becoming the preferred means of building social/professional networks among librarians, while also being used to communicate with library users. Social media allow librarians to adopt a new role by placing themselves within a social realm with users. By being active participants on social media, librarians are able to anticipate patrons' requirements and provide advice. However, the adoption of social media is channelled through ICT.

The study conducted in South-South Nigeria by Amina and Nwanne (2015: 210) noted hindrances experienced due to network connectivity problems, low bandwidth, few online desktop computers at academic libraries as well as cost implications and financial constraints to keep abreast with updated technology and infrastructure. Rambe and Nel (2015: 629) draw on technological uncertainty to unravel the complex, multiple possibilities in the reasonable use of technology, including the double-bound relationship between human agency and educational technology. The paper demonstrates the complex connection among educators' perceptions of social media, their media choices and effective use of such technologies for teaching. In spite of the hype around universal access to institutionally sanctioned networked technologies,

inequalities in accessing social media persist in South Africa. One of the concerns is that students from lower income and rural areas may not have access to the web when they are not on campus, owing to their lack of web-enabled phones and networked computers. This contradicts earlier hopes about the educational potential of mobile phones (p. 640). The uneven adoption of emerging technologies like social media in South African universities is less about technologically literate students and more about the limited off-campus opportunities for productive educational deployment of social media. The tragic experience of students in technologically disadvantaged communities is not based on a geographical location, but rather supposedly functional technologies disabled by adverse structural conditions such as uneven connectivity.

Research methodology

The rationale for this study is to identify the social media gap in an academic library in South Africa and the factors contributing to this. Interviews using a qualitative design approach were employed. The population of this study comprised five academic librarians and one network manager at the UL. This population was deemed appropriate for drawing conclusions from their experience of and perceptions on non-adoption of social media. A total of six professionals participated in the study.

Purposive sampling was used for this study. The cases were selected from a pool of library professionals. Purposive sampling involves identifying groups that are known to possess specific characteristics the researcher is interested in studying (Allen, 2017: 1525). Personal invitations were submitted via e-mail to prospective candidates at ULL. Face-to-face, semi-structured, in-depth, one-on-one interviews were conducted with four respondents. One respondent was on leave and a Skype interview was arranged. Social presence is understood as a feeling of being aware of and/or connected to the other social factors in a mediated environment (Allen, 2017: 1643). Interviews were held by the first author between September and October 2015. The names of the respondents were changed for confidentiality and pseudonyms were used to record the data.

Analytic procedure

The study needed to classify users according to the DOI theory, and used Hurt, Joseph, and Cook's "individual innovativeness (II)" measurement tool established in 1977 to analyse respondents' innovativeness as people respond to their environment in different ways.

Respondents were requested to state the degree to which each statement applied by indicating whether they strongly disagree = 1; disagree = 2; are neutral = 3; agree = 4; strongly agree = 5. A 20-item instrument was answered by respondents:

- 1) scores above 80 are classified as innovators;
- 2) scores between 69 and 80 are classified as early adopters;
- 3) scores between 57 and 68 are classified as early majority;
- 4) scores between 46 and 56 are classified as late majority; and
- 5) scores below 46 are classified as laggards/traditionalists.

In general, people who score above 68 are considered highly innovative, and people who score below 64 are considered low in innovation (Hurt et al., 1977: 2013).

The study further needed to assess the impact of social media on employee morale. Morale was qualitatively assessed based on the responses from research informants and discussed thematically in Theme 3.

A written account of the interviews is presented in the findings, using a narrative approach. A narrative approach is a method of qualitative data collection whereby a story is generated through the interview. The purpose of the narrative approach is to provide an opportunity to narrate respondents' experience. The narrative approach emphasises the lived experiences (Allen, 2017: 1072). This section describes the results of the narrative analysis of six respondents at ULL.

Results: understanding the needs of library professionals

The narrators put the phenomenon of non-adoption into perspective. These stories are told through the voices of respondents, bringing their own uniqueness as well as similarities to the fore. Everyone interviewed was familiar with social media, but one participant was not in favour of implementation.

Aisha

Aisha is 47 years old and has 27 years of library experience; she provided insight into the difficulties the library faces. As a Senior Librarian and member of the management team, she was sceptical and answered the question, “do you have any technological issues that could hinder your work output?” as follows:

“We are barred from using social media during core business hours, and this is what caused the delay. Library professionals were enthusiastic to move with the changing technology but because of the challenges, we have remained backward”.

The technological difficulties faced by the library go further than social media and affect the library professionals’ daily tasks. *“There are programs that I cannot access because of network issues and being blocked by the firewall”.*

Aisha furthermore highlighted the “*censorship*” enforced by the university on the general e-mail distribution to university recipients using the university’s mailing LISTSERV. This is intercepted and authorised at a central point before it is distributed to the recipients. *“We are delayed and late with the adoption, because it is long since [sic] most librarians have been communicating with their users through social media”*, she said. From the conversation, the researchers gathered that this is the golden age of free speech where smartphone technology, WiFi and the Internet can be used to tap into the latest news reports and library developments.

Additionally, the question, “do you feel pressurised by the media and the buzz around social media to keep abreast with technology?” She noted:

“Students created their own group profiles on social media. I am not sure how widely spread is the membership of these groups but they have indicated that there’s a forum where they discuss student issues on Facebook. We also highlighted that as university employees we too do not have access to social media platforms such as Facebook and Twitter. However, it was pointed out that the Marketing and Communication Department has adopted social media and advised that the library use the institutional social media platforms to communicate with students”.

Having considerable technical ICT experience as a systems librarian, Aisha scored 81 points and is classified as an “innovator”. Owing to technological deterrents and non-compliance by library professionals, her efforts to implement a new technology were not realised. To clarify the above, she created a Wiki where employees could upload training materials useful for student assistants working after hours when the library has a skeleton employee complement. Employees reported that time was against them and that they could not participate in the project. Her interest in presenting change was undermined to the point where she could not execute the

innovation. This reluctance from employees is based on internal environmental factors that hindered employees from embracing innovative technology and therefore led to low employee morale. She feels strongly about the critical success of implementing social media to ensure equality among the student population across the country. Aisha's adoption personality is very different from that of the other respondents. She sees the adoption of social media as a high-risk effort as a result of the institutional policies. She suggested that the process should be centralised. She might be right, and as an innovator she brings good new ideas that will be brainstormed before implementation. Irrespective of institutional agency, she still values the success of social media and emphasised the involvement of the library's senior management to support the adoption of such platforms, particularly Facebook and Twitter. Implementing innovations at ULL depends on the university's executive management and the ICT department's vision to lift restrictions to ensure free use of social media for academic purposes.

June

June is an acting Senior Librarian who manages a division in the library. She is 41 years of age and explained the prospects for the university library and hopes for change in bringing this phenomenon of social media on board. June expressed her perception of social media technologies when asked about the limitations or challenges she faced regarding non-adoption of social media.

Based on her ten years of library experience, she said:

“For the sake of the students, I wish we can have more and give more in terms of electronic access and technology. The students at UL come from previously disadvantaged communities. Most of them are introduced to a computer for the first time when coming to the university. [At other universities] iPads are lent to students, cost free. However, there are rules that apply if the iPad is lost or damaged; the cost is added to the student's fees account. This is the type of technology and the way forward that UL should establish. We hope that maybe the restriction with access to social media will be lifted”.

Furthermore, she answered the question, “do you have any technological issues that could hinder your work output”, and explained that:

“[...] academic libraries are modern and it is no longer the old (historical version) of a

library of students merely coming into the library to take out a physical book. We need to bridge the digital divide”.

Based on question regarding the acceptance of technology, she said:

“We need to be open-minded and willing to accept change, as is the case at other academic libraries in the Gauteng and KwaZulu-Natal provinces. They use hi-tech technology and equipment where students are entrusted with these as well as taking responsibility for the care and safekeeping thereof”.

June scored 74 points and is classified as an “early adopter” as she explores technologies before they are adopted by others. As an early adopter and avid user of social media, June is eager to adopt and use social media to promote the library’s services. Her adoption process is imaginative, and she evinces the energy and creativity to develop innovative ideas. Her social nature allows her to freely speak about her future plans. She is eager to adopt and launch new ideas in the social system (Rogers, 1995: 249), inviting others in the library to come on board to create a social media committee to discuss the way forward and design a suitable strategy to best serve the students.

Skylar

Skylar is a 40-year-old subject Librarian who has 13 years of library experience. She voiced the good aspects as well as her need to execute her job to its full potential; coupled with the negativity, she advanced positive suggestions.

To the question: “Would you find social media useful for your job?”, she answered:

“Yes, it will help a great deal, especially for distance learning and off-campus communication’. This she says will help her performance and her communication as the clientele she serves are mature adults and training takes up to two hours on various databases which requires step-by-step training as some students are not computer literate and requires a longer period to grasp”.

She said that if a step-by-step training guide or video is available online on social media, students would have the freedom to go through the tutorial independently.

She was enthusiastic and said:

“Maybe if we write a motivation and we get support from students. I think support from students is important to strengthen our case and to point out the benefits and educational use of social media”.

On the question of limitations and challenges faced regarding social media on the work front, she referred to other academic libraries in South Africa and their provision of electronic social media to their students and the library personnel. She referred to the limitations at UL as *“red tape”*.

Skylar scored 72 points and is classified as an “early adopter”. She interacts frequently with students using various other means of technology, as she requires this to correspond remotely with students who are situated on another campus. She has been innovative in communicating with students using alternative means of communication, such as Google Drive, owing to the unreliable and low-bandwidth e-mailing system. She has broadminded ideas and uses technology as soon as it becomes available. She is therefore eager to start using social media for communication and collaborative means with remote students should social media be adopted. She looks for ease and simplicity in a communication system, and because of the widespread use of social media, she feels that social media are best suited to meet the needs of remote students. She feels that the bureaucracy at the university contributes to negative consequences and escalates the frustrations experienced by employees and students. Strong support from the library’s executive management is required to ensure the implementation process and its continuous maintenance. Her perception and vision for an innovative academic library with additional communication features such as Facebook and Twitter confirmed that students are expecting library professionals in the digital age to organise and present information in a way that best suits them.

Tina

Tina is 37 years of age and is employed as a Faculty Librarian, serving two faculties. She provided us with an overview of her main duties, sketching her supervisory role. “Being a

librarian is a passion”. Her passionate relationship with her profession is short-lived as she briefs us on the hindrances she faces which prevent her from exercising her job to its full potential and implementing innovations. She responded negatively to the question, “Do you have the necessary resources to use the system that is in place?” “*No, I do not*”.

Furthermore, she commented on social media being the “*in-thing*”:

“Students rely on this medium of communication, because they are no longer interested to check their electronic mail (email); they prefer Facebook and Twitter. Right now, we are still facing a challenge. There is a great need for social media as we are pressurised to move with the changing technology to reach students in the medium of communication that they are currently using”.

As a solution to the problem, Tina states,

“If we, as librarians, stand together, we can persuade the university’s executive management to adopt social media. This will be so interesting to students who are technologically savvy”.

Tina is the type of person that will follow “innovators” before embracing a technology, after ensuring that it works well and is suitable and stable to use. She scored 67 points and is classified as part of the “early majority”, sceptical of implementation and change. Although she follows the mainstream social media sites, such as Facebook and Twitter, she is conservative in her approach to adopting social media and would prefer stability of the network before acceptance. She noted the need as expressed by students during information literacy (IL) training sessions that training material should be posted on social media. IL is a life-long learning competency of finding and using information to solve problems, make decisions and create new knowledge. So too social media form part of life-long learning and electronic competency skills required in the digital age.

Cassie

Cassie is 36 years old and acts as a liaison between two schools. She provides training and does literature searches for her constituency of students. Having 11 years of experience as a Librarian, she narrated her experience. Cassie is enthusiastic to include social media as part of the librarians’ job descriptions. On the question regarding the adoption of social media, Cassie

was hopeful that the library will engage in social media soon, she noted, “to some extent we are compelled to be on par with other academic libraries, so that we are able to help those whom we serve”. She provides a different angle regarding the technologically savvy nature of students. Libraries are at the forefront of technological change when students rely on the library to keep up with technology. “*We need to reach out to the students who are so advanced in technology when we, the library, are not out there [...] we are not even visible in the social media realm*” because the ICT department cited “*low bandwidth connectivity*”. She feels that the library’s management should provide the necessary structures to enable employees to operate. Furthermore, she noted:

“Most libraries have a Facebook account and I think being visible on social media increases the library’s image as well as sharing information that is relevant to the library profession and to promote collaboration [...] Having social media opened only after hours is not practical because social media is hands-on and provides real-time communication. Employees and students cannot wait until 16:00 because messages lose the effectiveness of online communication”.

She strongly feels that social media should be accessible to all and that ICT should increase the bandwidth to cater to the growing need for technology.

Cassie scored 63 points and is classified as an “early majority”. She is eager to express her opinion to ensure that her voice is heard, and eventually, if given the opportunity, she will accept the technology. The message perpetuated by Harrison et al. (2017: 249) is the same. “The normative mechanism is pressuring academic libraries to have a presence on social media”.

Cassie is quick to make the necessary connections between the needs of the students. She is enthusiastic and will challenge the adoption of social media. Now that she has determined its success, ease of use and the widespread need to effect change in an academic library, her natural desire to be a trendsetter is to ensure the speedy adoption of social media. She can be persuaded of the utility of new ideas, but the pressure of peers is necessary to motivate adoption. The early majority’s unique position between the very early and the relatively late to adopt makes them an important link in the diffusion process. The early majority follow with deliberate willingness in adopting innovations, but seldom lead (Rogers, 1995: 250).

Network manager

An interview with one of the network managers at ICT provided insight regarding the decisions reached to block social media. For clarity purposes, it was stressed that Facebook and Twitter were the preferred media of choice. The question posed: “Why is social media not accessible during core business hours?”

The network manager gave an overview regarding the decision reached to block social media during core business hours. He said:

“It was unanimously agreed by executive management to block social media, Facebook and Twitter, during core business hours. The decision was reached based on misuse of social media during working hours as employees surfed social media sites for non-work related matters, causing unproductivity, which led to internet privileges being revoked and certain sites being blocked to prevent an influx of network traffic and slowing down the network”.

Furthermore, he informed us about the aging infrastructure as it was not designed to cater for social media or videos. Due to the low bandwidth and for security purposes, as the university did not invest in monitoring tools to monitor social media usage, it is only accessible after hours, from 16:00 to 08:00.

Discussion of themes

The primary goal and objective of the study was to examine perceptions surrounding the impact of non-adoption of social media on morale, and to explore the consequences of non-adoption. At this specific institution, non-adoption, due to financial restraints, is a result of digital inequality related to disparities between income groups in South Africa. Employees’ perception regarding non-adoption of social media technologies was not favourable. Using emerging themes, the following RQs were addressed:

RQ1. What are the factors that hinder the social media adoption process?

RQ2. What effect does non-adoption of social media have on employee morale?

Theme 1: impact of non-adoption in an academic library

RQ1. What are the factors that hinder the social media adoption process?

The barriers highlighted in this study such as intermittent internet connectivity, low-bandwidth and aging infrastructure are exclusive to this university, which is situated in the rural area of Limpopo. Similar restrictions were cited by Moodley et al. (2015: 80). Other factors that hinder the adoption process were the restrictions on access to social media. Respondents perceived that the university was not taking a stance to ensure to their staff developmental growth and innovative technology progress. Even though the restrictive access was explained by the network manager, respondents felt that social media were crucial for their developmental growth. Furthermore, respondents felt that the bureaucratic system should be changed to a democratic system and the limitations imposed by executive management to bring forth change.

To drive transformation, the research suggests a change in the current practices, as the University Libraries act as a support structure to the greater university community, by making short- and long-term technological trends, like social media platforms, Facebook, and Twitter, available to students. Library professionals will have an opportunity to express themselves in the social media realm while satisfying students' needs as well as developing skills to analyse and create social media content. These platforms are particularly relevant as Generation Y students use social media for communication. If library professionals are given adequate opportunities to adopt technology, they will feel included and will be more likely to promote innovation. The main purpose of networking is to get information across to a wider audience of the student population.

As librarians at ULL are striving to implement social media, other academic libraries have embarked on new changes and opportunities. For example, the notion of the "embedded librarian" is introduced by Rambe and Nel (2015: 630). Their paper highlights the different ways in which effective uses of social media are embedded in innovative technologies. Furthermore, the UL should lead the way in bridging the digital divide by lifting the ban on social media to allow employees to explore innovative methods of communication and so too provide library professionals with the opportunity to develop their skills according to the key performance areas (KPA) required within the profession. Social media consist of a set of tools that enables library professionals to interact with students in real-time media as it is interactive and has a quick response timeframe for urgent notifications.

Theme 2: impact of digital inequality

Irrespective of the reasons provided by the network manager, several inequalities between

library management, executive management and the ICT Department were observed insofar as the amount of power granted to certain employees to withhold access to pertinent technologies. Respondents felt that there is therefore a need to introduce additional methods of communication to boost the library's communication tools by using innovative technologies such as social media to bridge the digital divide based on the university's poor access to the Internet, poor WiFi connectivity and poor remote access. Concurred by Moodley et al. (2015: 79), most students own mobile devices with internet connectivity and requested employees to communicate using social media as they are able to access it using their mobile devices even though social media is blocked during core business hours. The advent of ICTs has led to a technological revolution across the globe and it continues to change the global social and economic environments of countries making use of these technologies (Osunkunle, 2010: 377). Academic libraries are mandated to serve academics, students and administrative staff but the higher education sector did not escape the historical baggage of apartheid. The apartheid system engineered a division in the higher education sector where social inequalities of race, gender and geographic location resulted in the broad characterisation of HDIs and HAIs (Mojapelo and Dube, 2017: 224). Providing an example of the disparities between HDIs and HAIs, Osunkunle (2010: 384) found that HAIs, such as Stellenbosch University, had a ratio of access to computers of 3:1 and 24-h access to the Internet, as opposed to HDIs such as the UL, where a ratio of 17:1 was recorded. The latter is still mirrored in current practices. Library professionals at ULL have partial use of technology, although support from the library's management is needed to implement social media, employees feel they have the necessary skills and are willing to learn to use innovative technology. Digital inequality continues to persist along socio-economic lines. Respondents reflected on access provision at HAIs compared with ULL, where access was marginal. WiFi was not accessible within the entire library and internet access was intermittent. Based on these advantages and disadvantages, respondents felt their developmental skills were much poorer than those at HAIs. This links to employee morale discussed in Theme 3.

Theme 3: impact on employee morale

RQ2. What effect does non-adoption of social media have on employee morale?

Although significant progress has been made by making Facebook and Twitter available after hours' respondents are in favour of adopting social media, ensuring a stable and accessible WiFi network and internet connectivity. Respondents feel marginalised and incompetent to perform daily tasks. Respondents replied negatively to non-adoption of social media citing, they feel demotivated as their professional growth is hampered by limited resources, poor infrastructure

and lack of trust which led to poor work performance. To increase job satisfaction, an open-door policy and transparency are key indicators of involving employees in strategic planning and sharing information as the importance of their roles in the library is emphasised to strengthen relationships between the employer, employees and students. Likewise, social capital is acquired through social media interactions with students and colleagues at other academic libraries to enhance staff morale and so to feel that they are becoming digital citizens. Limiting access to social media is discouraging and contributes to employees lacking skills and knowledge to set up social media pages, seen as a KPA for academic librarians. So too, the lack of ICTs seems to have a negative impact on employee morale where the use of these media to create content and collaborate with students to bridge the socio-economic divide has led to low employee morale.

As indicated by respondents, although other academic libraries do have the autonomy to express their expectations, the measures that are put in place are not as stringent as those of the UL. Employees have the perception that their views and input will not be considered, as there is too much “red tape” to circumvent before social media can be implemented. As certain websites are censored by the University, social media platforms cannot be accessed during core business hours; instead employees use their personal data on mobile devices or wireless broadband to gain access; alternatively, social media are accessible after-hours only as per the prescribed times stipulated by the University.

Conclusion

Social media contain significant platforms in the digital environment, creating additional means of communication for academic libraries where library professionals see themselves as educators in the rapid development of digital libraries. Social media have been identified as important networking tools as they are deemed important for staff development and social capital for academic librarians to keep abreast with trends and new developments in the profession. Not only should the University ICT department allow social media platforms on the network 24-hours a day and upgrade the infrastructure to enable this, but high-speed WiFi connectivity should also be rolled out throughout the library to ensure and facilitate the effective access to and usage of social media. As noted by Rogers (1995: 31), in a university setting, a professor may not be able to make an optional decision to use a word processor until a prior authority decision to purchase the word-processing equipment has been made by the professor’s departmental chairperson. Therefore, the library’s management should become the agent to

adopt and implement the DOI, in this instance, social media. Mojapelo and Dube (2017: 232) noted the historical divisions and barriers in academic libraries across South Africa prevent Generation Y students from accessing a plethora of information sources to satisfy their wide-ranging, dynamic and ever-evolving information needs.

This paper identified the challenges faced by library professionals in an academic library environment. These are low bandwidth, poor internet connectivity and dated ICT infrastructure. This concurs with the opinions of Nkondo et al. (2014: xxiv) that there are imbalances of physical access, technology and resources. As a result, the adoption of social media is not practicable. Low employee morale is experienced, as employees are unable to express themselves in a digital environment due to the University's ban on such media, which leads to non-adoption of social media. This creates a digital divide within academic libraries and staff developmental skills at ULL. To bridge the gap in digital divide, higher education institutions play a pivotal role and should make a concerted effort to prioritise internally the availability of infrastructure and limited resources to produce technologically savvy, skilled graduates to compete in corporate competitive environments. The LIS profession requires new and emerging skilled professionals to use technologies geared for the digital era, which is important to their growth in a constantly changing LIS environment (Raju, 2014: 169). Similarly, library professionals should be equipped with innovative technologies where social media expertise are considered desirable skills for the twenty-first century librarian. Furthermore, South African universities play a pivotal role in offering diverse learning opportunities for those who face disproportionate socio-economic challenges (Williams, 2020: 146). Even though misuse of social media has been identified, respondents viewed the use of social media as a source of communication in the social environment, keeping students abreast with news feeds, posting urgent messages and to network with colleagues at other branches. Social media is viewed as a source of connecting with students, fellow colleagues and other academic libraries, locally and abroad. Accepting technology and moving with modern times require academic libraries to change in order to keep abreast with technological advancements to suit the needs of Generation Y students as it is a fast mode of communication.

This study's sample size is not representative of the university library community, therefore it cannot be generalised, but variables such as age, tenure and length of service seem not to have had any impact on respondents' approaches to innovation. The study concludes that library professionals are eager to accept innovative technology, even if the institution is known as a

late adopter of or laggard in the adoption of the technology. Respondents emphasised the importance of training as an essential tool to ensure maximum use of the technology. There was a strong feeling among respondents that social media could be beneficial to the library and contribute to positive employee morale and employee retention. Despite the lack of enthusiasm, respondents are hopeful that one day, social media will be adopted and freely accessible. The key is to recognise best practice and to work towards building a collaborative tool that suits academic libraries and the student population.

It is recommended that all social media sites be opened and to prevent abuse of social media, students could be given a certain amount of data loaded on their student cards and when depleted the onus rests with the student to reload. The recommendations could be used to implement a turnaround strategy. Furthermore, this qualitative study of the challenges faced by academic libraries has highlighted the effects when a specific technology is not adopted, based on internal environmental factors. As a support structure to the university, academic libraries need to re-conceptualise processes and procedures in support of students to align with the needs of their twenty-first century clientele.

CHAPTER FIVE: STUDY 3

Library as place: Evaluating physical and virtual spaces. A case study of two academic libraries

Abstract

Informed by Pierre Bourdieu's theory on social capital, this paper examines how academic libraries might be considered places to create social capital. The study that directed this article utilised a qualitative approach and drew upon the perceptions of both the student population and library professionals at the University of Antwerp in Belgium and the University of Limpopo in South Africa. This study explored the similarities and differences in respondents' perceptions of their respective libraries. The study relied on semi-structured interviews comprising 34 participants: 30 students and four library professionals. To inform this study, data were collected on the perceptions of the libraries' physical and virtual spaces to ascertain differing views regarding academic libraries' social values and their contribution to creating social capital. Students use the physical space extensively as a gathering place for group discussions and independent academic work, and depend on library professionals to disseminate information effectively on reliable and suitable platforms. The differences in students' perceptions between the two academic libraries can be clarified based on their respective geographic settings, which influenced their perceptions and needs of the library. The article notes various restrictions at the University of Limpopo compared to current practices at the University of Antwerp in the context of social capital, physical space and technology, owing to uneven distribution of resources and autonomy.

Keywords: Library as place; social capital; social media; academic libraries; Belgium; Limpopo

Reference

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Introduction

Academic libraries create physical and virtual spaces to allow students access to a variety of information in various formats and platforms in an intellectually stimulating environment. Hybrid libraries are a mix of print and electronic collections and cater for students' needs to support their academic achievement. Students use many forms of collaborative learning, and academic libraries expose them to information via various communication methods as technology improves. A digital paradigm shift is occurring, and academic libraries and higher education institutions cannot ignore students' needs. The modern physical library must accommodate a growing array of services; therefore, academic libraries are evolving to meet students' and staff's changing needs in the digital era. The emphasis has shifted from physical book collections to services incorporating electronic resources, innovations in teaching, technology, and social media. Librarians must keep abreast of students' dynamic needs, the innovative use of information technology and services, and these services' perceived value. This can help librarians to identify new service opportunities and decide how to set up and expand existing service capabilities to support students' new, changing needs and priorities (Stvilia and Gibradze, 2017: 257). Because of these changes, academic libraries have become social spaces, which McDonald (2007: 20) defines as interactive, easy-to-use, well-organised spaces that promote contact between users and services to create independence. This forms an integral part of the services that academic libraries offer, as their services are part of academic library practices in identifying "customer wants and needs and meeting those needs within the resources of the organisation" (Gupta et al., 2013: 13).

In this changing context, social media is an ideal way to communicate with students. Romero (2011) notes that social networks, such as Facebook and Twitter, are now the most attractive options when opening new channels of communication and relationship building with students. Librarians play a pivotal role in preparing students for the 21st century, ensuring they are exposed to different information sources and prioritising their needs. Therefore, academic libraries should be cognisant of students' information needs and meet these by innovative use of information technology and services (Stvilia and Gibradze, 2017: 257). Sennyey et al. (2009: 253) support the continued relevance of academic libraries by stressing the importance of the library as a place that encourages research and intellectual activity.

This article explores physical and virtual spaces of academic libraries in a rural and an urban geographical setting to ascertain social capital creation and the impact thereof on academic

library use. In order to understand the use of library spaces and preferred communication methods, the study investigated the interactions between library professionals and students. This article presents the “library as place” and discusses academic libraries’ role in advancing and enriching students’ educational experience.

To understand social capital, relationship building and the library as place, the study sought to answer two research questions: 1) How is social capital created in academic libraries? 2) How is the digital environment used to create social capital? To answer these questions, two universities were studied: the rural University of Limpopo (UL) in South Africa and the urban University of Antwerp (UA) in Belgium, using one-on-one, semi-structured interviews with students and library professionals.

Theoretical Framework

Social Capital

Bourdieu (1996) highlights the value of social capital and views it as the resources individuals receive from social networks. Bourdieu and Wacquant (1992) note that social capital development begins with relationships, and access to resources and social networks emanate from them. Similarly, Putnam (1995: 664) defines social capital as the connections among individuals, such as social life, networks, norms, and trust that enable participants to act together more effectively to pursue shared objectives. Putnam (2000) provides statistical evidence to support his claim that social capital is essential to enable communities to work together towards common and individual goals. Putnam implies that communities with high social capital are better educated and more affluent than communities with low social capital (Putnam, 2000: 321).

The concept of “social capital” has been adopted in library and information science literature (Ramsey, 2016; Naseri, 2017). Social capital was found to enhance access to information, enabling better self-support, better-informed decisions and more effective participation in educational activities (Ramsey, 2016: 331). Academic libraries’ role in creating social capital is not limited to physical space; online and social media can also contribute as they constitute a network of partnerships incorporating students “with a weaker social capital” (Ramsey, 2016: 331) to achieve their goals, which would have been difficult or impossible without those connections. Goulding (2004) asserts that an individual’s qualifications, skills, educational achievement, and physical capital such as property and finance, enable communities to achieve

goals. Furthermore, she affirms that “libraries are beginning to explore their potential for building social capital and assert their value as a public space that brings together diverse populations into one community to learn, gather information and reflect” (Goulding, 2004: 4). Naseri (2017: 17) explored the fundamentals of how social media contributes to social capital; his findings suggest that internet use is associated with an increase in social capital.

In relation to virtual space, Valenzuela et al. (2009: 895) found that Facebook contributes to engagement and social capital. Grieve et al. (2013) concur that Facebook use may provide opportunities to develop and maintain social connections in the virtual environment. Furthermore, Ramsey (2016: 332) contends that libraries can help form social connections by connecting users through traditional resources, which could make a lifelong impact on their lives. Academic libraries’ social media use provides an opportunity to attract students to the library, promote the library and its resources, and help students with information needs.

Library as place

The sociologist Ray Oldenburg (1999) explored the concept “third place,” proposing that “first place” is home, “second place” is work, and “third places” offer safe public spaces for people to meet and establish bonds. An academic library’s physical design plays a role in drawing students together in its public spaces. Third places exist on neutral ground and serve to level their guests to a condition of social equality (Oldenburg, 1999: 42). Discussing the design of new spaces to meet users’ changing needs, McDonald (2007: 13) explores the qualities of good library spaces to enhance creativity. Rather than replacing libraries with information technology, the technology moves into libraries. These new buildings provide places where students engage in various academic activities such as studying, group discussions, and accessing academic content remotely (McDonald, 2007: 25). Furthermore, he notes that creating this type of space for students helps to bridge the “digital divide” by providing information access to the “information have-nots” in society.

Footnote: The main two themes of this article are “social capital” and “library as place.” In general descriptions, we use “library as *a* place”; however, as a description of the theme and abstract concept of space, we use “library as place.”

A paradigm shift has been apparent since the inception of electronic resources, as the physical library's role is changing. Electronic archives made back runs of previously printed articles obsolete (Sennyey et al., 2009: 253). However, academic libraries are not redundant, as library buildings remain essential for printed material (especially monographs) (MacWhinnie, 2003: 242), which is widely used by undergraduate students. More and more books are published annually and academic libraries purchase these to add to their collections for ease of use (MacWhinnie, 2003, 242). Khoo et al. (2016: 62) found that students need various factors to satisfy their needs: sound; temperature; the library's ambience; cosy, quiet spaces; individual and group discussion rooms; and comfortable study carrels. Users expect access to information in many formats, including print, electronic, and multimedia, with a concomitant need for research assistance from librarians and information specialists to make the most of the resources available and find the information they need (MacWhinnie, 2003: 242).

Methodology

To ascertain if social media supports social interactions between library staff and students, a qualitative research approach was selected. The study was carried out in two phases at both institutions. The population comprised library professionals and students. Library professionals were well suited to comment on social interactions between the library and students. In turn, students could provide their views on digital access for their needs.

The universities discussed in this article differ in terms of character and context, offering a suitable sample to draw comparisons. The lead author, an employee of the ULL and a student at the UA, had the privilege of exploring both libraries as place and identified "social capital" and "library as place" as main themes. Questions relating to the library as place, based on the physical environment and virtual access experienced by respondents, attempted to ascertain if the library was conducive to students' academic needs. Terms such as "social capital" were avoided in interviews; instead, simpler language was used to obtain information about their background, primary and secondary education, library physical and virtual space, internet connectivity, access to computers or laptops, and ownership of smartphones. Smartphones support various functions—once only available on computers—including easy access to the Internet, and they now serve as a convenient form of communication or interaction not provided by traditional cellular phones (Yi et al., 2016: 481).

To ascertain students' demographic information and background, they were questioned about

their financial situation, living conditions, type of settlement and number of occupants, owning a laptop or desktop computer, and having access to the Internet and smartphone technology. During the second part of interviews, the questions pertaining to social media were slightly altered for students at the UL, as the University of Limpopo library (ULL) had not adopted social media, and to ascertain students' perceptions regarding the use of social media as opposed to the University of Antwerp Libraries (UAL) where social media was used. Respondents were questioned about their awareness and use of social media, and their preferences compared to traditional methods of communication between students and the library (email, notice boards, the library's webpage, brochures, electronic flat screens, and social media). Most importantly, respondents were asked to identify limitations or challenges regarding social media as a communication tool.

Background

The UA is situated in an urban area in Flanders in the Dutch-speaking northern part of Belgium, and serves students from urban areas, with many international students. According to its mission statement, the UA was founded in 2003 after the merger of three smaller universities, offering innovative academic teaching to over 20 812 students enrolled for the 2020 academic year (University of Antwerp, 2020a).

The UL is a historically disadvantaged institution, situated in a rural area in South Africa, serving students from surrounding rural areas. Although enrolment figures for undergraduates and postgraduates are similar to those of the UA (21 867 for the academic year 2020) (University of Limpopo 2020b, 13), the institution's profile and history are radically different from the UA. In the past, the UL was famous for its activities in the struggle against apartheid, but since 1994 it has earned itself a reputation as an institution struggling to survive. The digital divide is a deep-rooted problem as South African students in remote rural areas have limited access to the Internet, technology, computers and computer laboratories (Oyedemi, 2012: 303). In emphasising the importance of equality and redressing inequalities, academic libraries are familiar with the problem of under-prepared students, educated at schools with few resources and teachers often ill equipped to incorporate resources into their teaching (Nkondo et al., 2014: 72).

Sampling

English was chosen to communicate with students, as both Dutch and English are used as

languages of instruction at the UA (University of Antwerp, 2019). The language of instruction at the UL is English (University of Limpopo, 2020: 2). Interviews were conducted in English at both universities. The sampling population of this study comprised two types of respondents: library professionals and students. A combination of purposive and snowball sampling techniques was selected. Purposive sampling uses special knowledge to intentionally “hand pick” (Ruane, 2016: 248) respondents, using various criteria, including willingness to participate in the study. The research used purposive sampling, which involved four respondents from two different geographic regions based on the respondents’ job profiles, responsibility for managing and updating social media content, or knowledge on one or more social media platforms.

The first phase of the study involved semi-structured, face-to-face interviews with library professionals involved in the management and daily operations of various library sections. Interviews at UAL were conducted in June 2015; one interviewee was male and one female. UAL had two social media accounts (Facebook and Twitter). Similarly, face-to-face, semi-structured interviews were conducted in September 2015 with two female library professionals managing daily operations at ULL. ULL had not adopted social media at the time of writing this article. Although the UL had institutional social media accounts (Facebook and Twitter), managed by the Marketing and Communication Division, respondents’ interviews were based on their perception of social media, knowledge of how academic libraries use communication methods, and the use of the physical and virtual library environments.

The second phase of the research used interviews with 15 student respondents from the UA and 15 from the UL, aiming for the same sample per university for comparability. An invitation to participate in the study was sent to registered students at each university via email, using students’ listserv. The first call for participation was made to registered students at the UA. The lead author, residing in Belgium at the time of data collection, conducted face-to-face interviews with respondents in Belgium, and initially intended to conduct Skype interviews with respondents in South Africa. The call for participation at the UL was submitted several times but only three students responded due to technological problems, inactive email addresses, intermittent internet connectivity and slow responses. The lead author travelled to South Africa to conduct face-to-face interviews. The snowball technique, using face-to-face interviews, was used to attract additional respondents. Snowball sampling is a convenience sampling method used when it is difficult to access subjects with the required characteristics. In this

method, the existing study subjects recruit future subjects from among their acquaintances (Naderifar et al., 2017). To get the sample started, the researcher finds an initial contact and asks if that contact can provide leads to other possible participants (Ruane, 2016: 227). In this way, the quota of 15 students was soon reached and 12 students were interviewed face-to-face.

Ethical clearance was obtained from the UA, and the UL granted permission to collect data. No risks were perceived, informed consent was obtained from voluntary respondents, and their rights were respected. Participants' identities were kept confidential and codes were used to ensure no identifying information was recorded. The information sheets for participants gave an overview of the research and each sheet was marked as University of Antwerp Library Professional (UALP) or University of Limpopo Library Professional (ULLP), followed by the participant number, for example, UALP#1 or ULLP#1. The same process was followed for student respondents, and marked as University of Antwerp student (UAS) or University of Limpopo student (ULS) followed by the respondent number, for example, UAS#1 to 15 or ULS#16 to 30. These numbers were assigned in the order of the interviews conducted.

Fifteen students were interviewed at the UA between September and December 2016: seven male and eight female, four undergraduates and eleven graduates. Voiceover Internet Protocol (VoIP) is a technology that can transmit video and audio data over the Internet (Chakraborty, Misra, and Prasad, 2019: 2). At the UL, both face-to-face and VoIP methods were used to conduct semi-structured interviews with fifteen students between December 2016 and November 2017: eight male and seven female, seven undergraduates and eight graduates. Participants had similar experiences with the research questions posed; therefore, saturation was quickly reached.

Data coding and analysis

The semi-structured interviews provided in-depth information from library professionals, who were knowledgeable about the subject matter and understood the institutions' strategic planning and vision. The student respondents provided their views, insights, and experience of the libraries' physical and virtual appearance and discussed developments to suit their current needs. Interviews lasted between 30 and 70 minutes for library professionals and between 35 and 45 minutes for student respondents, which were audio-recorded and transcribed verbatim.

The interview questions for the two types of respondents differed, as the interviews sought

information from an end-user perspective among the students, and from a provider perspective among the library professionals.

The lead author conducted the interviews, took notes and identified important information and possible themes. The research followed a deductive approach as it relied predominantly on applying pre-identified themes. Thereafter, she scrutinised the qualitative raw data and highlighted keywords and texts pertaining to pre-identified themes based on the library as a welcoming place. The following step in the coding was identifying similarities and differences in responses. She reread the transcripts and highlighted similarities and differences, using different colour shadings on a Microsoft Word document. These texts were labelled and grouped by theme; for example, text pertaining to the background, electronic resources and social media was grouped under the digital phrases linking social capital, and text pertaining to the library (such as technology, computers and physical space) was grouped under the physical library as place. Using this process, the themes were refined and similar concepts were clustered. Thereafter, portions of texts were grouped according to social capital in the virtual context and social capital in the physical context, linked to library as place.

Results

During the data-analysis process, the lead author observed similarities and differences in the transcribed data. Exploring differences in their perceptions may enable academic library management to address the challenges that hinder library professionals from delivering effective and efficient library services to students. Two main themes were identified: 1) social capital and academic libraries: physical space; and 2) changing roles and relationships: virtual space.

Theme 1: Social capital and academic libraries: Physical space

The first theme was built around the first research question: “How is social capital created in academic libraries?” This theme covered library professionals’ and students’ responses regarding the physical library as place to encourage relationship building, facilitate browsing, enable liaison with library professionals, and be conducive to scholarly research.

University of Antwerp

The question was posed: “Does UAL have the necessary resources in place?” Both library professionals stated the library building was conducive to learning and had the necessary

resources. Furthermore, they noted that students used the library as a meeting place, for browsing physical material and for individual learning. The main library had modern features and was an architectural attraction, but also an ideal location to study and collect the materials needed to complete research (University of Antwerp, 2020b). One library professional explained these features:

“There is an overhead information screen at the entrance to the library. We use this to post interesting or important information. So too the seminar rooms were in high demand use where group discussions were encouraged”. (UALP#2)

Although academic libraries have changed over time and material can be sourced electronically, one library professional explained the social connection of students gathering in the library for group work, meetings, consultation or independent work. He noted that the physical space plays an important role:

“Librarians have face-to-face contact with users through instructional classes, service desk queries and individual consultation. Therefore, the library is not just a storage space for books; it is a place where students gather to socialise and find required information”. (UALP#1)

From the responses, the library played an important role in connecting with peers as a meeting place for students and in interacting with library staff, all of which constitute social behaviour. It seemed the UAL created an environment conducive to research and learning, through study space and discussion areas.

Student respondents concurred with UAL professionals that the library was much used, that the physical space was conducive to learning and had the required equipment and furniture. The library is used for research, as one student noted:

“I browse the collection and borrow books for research purposes”. (UAS#13)

Students use the library for various reasons as outlined below. Many students work on their research or study in the library.

“For instance, the seminar rooms are on a first-come first-served basis and when my group meets, we have to be in the library early to secure a seminar room”. (UAS#10)

Another student responded:

“The library becomes busy during the examination periods, then it is hard to find a quiet spot to study. (UAS#12)

Five student respondents described the library as welcoming. One said:

“Studying in the library creates an atmosphere of unity”. (UAS#4)

Not all respondents were in favour of using the library. Three students said they preferred studying at their own residences and only used the library to find print monographs.

Based on the increased levels of use, the UAL offered a physical space conducive to individual study purposes and group discussions.

University of Limpopo

The same question posed to UAL professionals was posed to ULL professionals. ULL provided a quiet study space and group-discussion areas, which strengthened relationship building between library staff and students—a vital way in which academic libraries contribute to social capital. Social engagement with peers and the library was perceived as important. Librarians liaise proactively with students and provide information services and research assistance across faculties. Students spend considerable time in the library, participating in educational activities such as training interventions, browsing physical books, individual learning, and group discussions. ULLP#1 felt that relationship building was strengthened, as students are encouraged to consult their librarian for assistance in finding information:

“Librarians were inundated with reference queries and training provided which gave them a perfect opportunity to have reference interviews and so getting to know each other and building a professional relationship”.

Students use the library and physical collections. Interviewee ULLP#2 stated that students use

the library's physical collection a great deal. She responded:

“Yes, we do have the necessary resources in place but the physical book seems more accessible to students coming from the rural areas as they do not have the necessary electronic resources to work remotely”.

ULLP#2 described the displays containing a selection of subject-related and popular books that attract students to the library. The physical library was discussed, and ULLP#2 mentioned that although the chairs were not comfortable, it seemed students did not have the means to study remotely, complete assignments or have group discussions at home. ULLP#2 also observed the need for students to use the library, as there is usually a queue waiting for the library to open in the morning.

Although the need was expressed previously to extend operational hours irrespective of the library's poor condition, ULLP#1 noted:

“Students are not aware that an increase of users in the library creates extra strain on the building. When the library was built it was designed for a certain number of students with fewer operational hours”.

The library professional mentioned that, at the time of this research, there were plans to refurbish the library to cater for more students. Students were encouraged to use the library's services, computers, quiet study areas and group-discussion seminar rooms.

Based on the interviews with student respondents, the library's role was mostly seen as providing information, access and space for students to conduct their studies. Students were asked: “What is your perception of the physical library?” One respondent felt the library was supportive and catered for students' needs:

“Yes, I feel like the library is supportive and has the necessary books for our research”.
(ULS#26)

Most student respondents felt the physical space is as important as the virtual space, and provided negative views of the library's physical space, equipment, and furniture. Two students

stated:

“The library lacks adequate resources like useful books and furniture”. (ULS#20)

“The library doesn’t have the latest editions and some of them lack the information that we need because they are old. Some of the books are from the 1990s”. (ULS#23)

Concerns were raised:

“The library provides a space where we can get together, have discussions and work together on projects ... but there is a need to upgrade the physical space”. (ULS#25)

Health and safety were also noted. Students were unhappy that the library does not have water fountains and that water bottles should be left outside, as the lockers provided are broken, insufficient or unhygienic:

“Safety is also an issue as we are forced to leave our water bottles and food items outside the library. I really hope there will be improvement in our library in terms of standards, updated information and access to information”. (ULS#23)

Comparison

In reviewing this first theme, with regard to UAL, it was observed that the university’s executive management provided administrative and financial support to provide the necessary resources to students. Students use the physical library extensively for study and research purposes, and based on students’ responses, UAL seemed to positively impact students’ academic achievement, as the required physical resources are available. UAL supports the creation of social capital, as most student respondents felt the ambience in the library was motivational, as everyone contributed to academia. UAL made the library conducive to learning and connecting. However, ULL had to reconsider its library spaces and modernise common areas to create a 21st century academic library. As ULL was rated as outdated in its use of modern resources, the library should be upgraded to provide high-quality educational resources and service delivery to be conducive to creating more connections and stronger social capital among users.

Theme 2: Changing roles and relationships: The virtual space

Social capital can be created through community engagement and online resources, generating a virtual environment where the library is present in the online realm. To answer the second research question: “How is the digital environment used to create social capital?” we used the data collected from library professionals and students and their perceptions regarding online resources.

University of Antwerp

Library professionals at the UA viewed social media as an innovative tool in the 21st century academic library and revelled in their open platforms for information sharing, as they created social networking sites to communicate with the university community. Using these platforms (Facebook and Twitter) as innovative means of communication makes the library visible on platforms that are accessible by students and peers globally. In their view, they were reaching students via channels acceptable to them and ensuring a changing environment to serve students. The rise of the Internet simplified access to information. One library professional mentioned its simplicity:

“Interacting with the students on Facebook provides a virtual connection where students can turn to for information. I also think it is an easy way of requesting information where students can post a question”. (UALP#2)

Providing online access to special and rare library material, one library professional explained using Twitter to share content:

“I like the use of Twitter and the option to interact with people. I wanted to have a steady communication for Special Collections, which is more on the level of students, so when I see something that is interesting, that is representative of our collection, I would tweet about it to draw students”. (UALP#1)

Some students appreciated the sharing of information on social media and viewed it as academically viable. Two students thought it essential for academic libraries to keep abreast of innovative technology. In support of social media, they noted:

“The university needs to know where the students are going [what social media

platforms they are using]". (UAS#1)

"Social media channels can be used to communicate directly from the university library to students and it is so much faster and easy to share information". (UAS#14)

However, not all students shared these sentiments, in particular three UA students who were not in favour of using non-professional platforms for academic purposes, to the extent that they resisted the use of social media on an academic library platform. These students felt that the library should communicate with students using more traditional means, such as email and messages on their webpage to portray a professional image. They viewed social media as a personal tool and used it to connect with friends, not with the university library. Another student was neutral in her responses and thought the use of social media could not benefit her, stating:

"I only use social media to view things pertaining to my field of profession". (UAS#7)

University of Limpopo

At ULL, library professionals recognised the need for innovation. Although the Marketing and Communication Division manages the university's social media platforms, library professionals could submit posts to the centralised platforms. Library professionals were reluctant and noted:

"I use my own social media accounts". (ULLP#2)

Regarding the type of content shared with students, one respondent noted:

"I share library-related topics, information about conferences, and information literacy training programmes. (ULLP#2)

To promote the library, ULLP#1 noted:

"Social media are essential resources in reaching a broader number of students but it would be easier if the library created and managed its own platforms".

ULL perceived social media as an important communication tool to disseminate information and for future development.

Students at ULL had similar views to those of library professionals. Using Facebook and Twitter for information sharing and promoting library services was gaining popularity in academic libraries. Student respondents in this research were up to date with innovative technology and adapted to it easily. Social media had its advantages. One respondent suggested:

“The library can use social media to inform students about new books and training interventions, as it is a platform that we use”. (ULS#22)

Students perceived social media as important for their studies, but limitations were voiced:

“The library needs to be improved and it is important for the library to have a social media page so that we are informed about new developments in the library”. (ULS#21)

The library is not visible on social media, and she stated:

“Staff are not reaching out to students and social media will increase our interest to come to the library”. (ULS#21)

One student agreed:

“I use the computers in the library to access electronic resources but we are facing a challenge, as the Wi-Fi is not working and 75% of our lecturers use Blackboard; therefore, we need internet connectivity”. (ULS#24)

Comparison

In reviewing the second theme, this research provided an understanding of social media usage and library personnel’s and students’ preferences at both institutions. The UAL students had mixed views on the adoption and use of social media for academic purposes. Although perceived as a faster method of communication, few students were in favour of social media and viewed communication from academic libraries to be in line with other professional communication methods. Contrastingly, respondents for the ULL welcomed innovative means of communication, and library professionals recognised the need to implement social media to prevent libraries from becoming stagnant and archaic. Furthermore, using personal social media

accounts has negative implications, as in this way, fewer students are reached.

Discussion

Although social media is a relatively new concept for disseminating information, it seems to have gained considerable presence among academic libraries. Both academic libraries' interview data generated useful findings regarding how library professionals and student respondents perceived the use of social media in academic libraries.

The study was guided by Bourdieu's concept of social capital (Bourdieu 1996) who views it as the resources individuals receive from social networks. In the context of academic libraries, social media activities can be used to communicate and connect with the library and its student community by encouraging information sharing on platforms recognisable by students, creating online and virtual connections. Naseri (2017: 17) states that online communication through social media activities generates social capital, noting that social media introduces a newer form of virtual socialising in which relationships are created offline and then move to online spaces or vice versa. Grieve et al. (2013: 608) confirm the value of social connections in online contexts, using Facebook as a social hub.

The data collected during this study showed that one of the two academic libraries promotes strong relations with the student community. UAL demonstrated its intent to build relationships by ensuring the needed technology, electronic resources, remote access and social media are available to staff and students. Respondents showed an awareness of the role UAL played by commenting on the clear guidance given to library professionals, who use social media as a method to communicate with the student community.

UAL exhibited qualities that support Bourdieu's concept of social capital to attract students in the 21st century. They used videos, general notifications and invitations to attend database training, suggesting the effectiveness of relationship building, thus contributing to social capital. The library's Facebook and Twitter accounts had a good strategic vision and dedicated personnel managing these platforms, and "offered opportunities for interaction" (Young and Rossmann, 2015: 29). UAL provided remote access to electronic resources where registered students could access content remotely. Young and Rossmann (2015: 30) state that social media can help a community of users via the library's social media platforms, while Kibugi (2013: 118) notes, "relationship building translates into improved services and confidence" with regard

to both library professionals and students.

At ULL, respondents agreed that an academic library should be welcoming and comfortable. Oldenburg (1999) notes the importance of the library as place, as it plays an important role in relationship building and social capital creation. Of significance is that the two library professionals exhibited confidence in their abilities to adopt and use social media platforms in future. Using social media to communicate is time consuming, and library professionals need to plan the implementation process of these platforms strategically. The data revealed some advantages, as seen by library professionals and student respondents, of the academic use of social media to enhance awareness of the library's virtual space. Students were interested in familiarising themselves with their immediate liaison, their subject librarian, and they thought social media could improve communication between library professionals and students. Lack of support is a challenge to be addressed if social media were adopted. Additional challenges and critical issues for the library are unstable internet access and the blocking of social media during core business hours to prevent an influx of network traffic (Williams et al., 2019: 491). If the library adopts social media, it is important to establish if using social media will add value to the library, improve socio-economic conditions and assist in social capital creation. Based on our research, it seems that ULL has the potential to increase social capital by encouraging interaction and the exchange of ideas between librarians and students.

Conclusion

The purpose of this research was to explore the perceptions of library professionals and students at two academic libraries regarding the use of social media to deliver library services and improve social capital. Library professionals acknowledged the importance of using Facebook and Twitter, and by redesigning academic library spaces for the 21st century, they formed relationships with the student population to promote the library.

UAL indicated that the physical and virtual environments should be conducive to teaching, learning and research. Therefore, academic libraries and library professionals should re-invent themselves to align with new environments to support students' changing needs. However, ULL did not keep abreast of innovative changes and major challenges, such as poor infrastructure and controlled access to Facebook and Twitter.

The data indicated that student respondents at the UL, especially those from highly

disadvantaged backgrounds, were marginalised as they lacked access to information. The study concluded that social media could help with social capital among students in rural environments. Based on this study, students at the UL were skilled in using smartphones, but not in innovative technology or computers. However, they were eager to learn and bridge the digital divide. Libraries must ensure that students, especially entry-level students, are appropriately skilled. Respondents from the UL felt the situation was exacerbated by the university's lack of initiative to improve the ICT environment to facilitate access to social media for educational purposes. The results showed the importance of social capital to improve skills to allow students and library professionals to function better in an academic environment. Adapting to innovative technology is perceived as beneficial to personal and corporate growth.

An academic library should be well designed to conform to national and international standards and should benchmark library architecture and the requisite resources. Furthermore, it transpired that library professionals are able to facilitate access to information, promote library resources, provide training, and present new developments by communicating through social media. Library management plays an important role in ensuring there are measures to adopt, use and facilitate communication through social media. Using social media allowed library professionals at UAL to communicate with students through these platforms, opening two-way communication channels and improving the library's social capital in the online realm, which ULL will hopefully also implement soon.

CHAPTER SIX: STUDY 4

Students' perceptions of the adoption and use of social media in academic libraries: A UTAUT study

Abstract

This article reports on a study for which the Unified Theory of Acceptance and Use of Technology (UTAUT) served as a theoretical framework. The purpose of the qualitative exploration was to gain an understanding of students' perceptions of the adoption of social media, namely Facebook and Twitter, in an academic library setting. The study applied the constructs as described by the UTAUT, namely, performance expectancy, effort expectancy, social influence and facilitating conditions, to explore students' perceived behavioural intentions to use social media. A sample of 30 students were selected from two universities, one in Belgium (University of Antwerp) and one in South Africa (University of Limpopo), to gain better insight of the students' perceptions regarding the adoption and use of social media, in particular Facebook and Twitter, by the academic libraries at these two universities. The study showed that the adoption of social media is positively influenced by effort expectancy, performance expectancy and social influence. A major challenge reported by most respondents at the University of Limpopo was poor internet access and the non-adoption of Facebook and Twitter, whilst respondents at the University of Antwerp had mixed feelings about the adoption of Facebook and Twitter for scholarly communication.

Keywords: Unified Theory of Acceptance and Use of Technology; academic libraries; Facebook; Twitter; social media

Reference

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Introduction and contextualisation of the two universities

The use of social media, such as Facebook and Twitter, in an academic library environment indicates a change of attitude and behaviour regarding technology among the student community. With the emergence of the Internet, web-based information services have impacted widely upon the provision of library and information services (Balaji and Kumar 2011). Social media have mainly been adopted in academic libraries to promote services and resources. Despite their low adoption rate, Collins and Quan-Haase (2014) found social media to be an effective means of reaching students. Chu and Meulemans (2008) combined a survey and focus groups on students' use of social media for academic purposes and identified a hesitancy among students to adopt social media as an academic tool of communication. The students indicated that librarians and professors could create and use social media profiles in order to decrease hesitancy. In the same period, Burhanna et al. (2009) explored Web 2.0 technologies in an academic library using focus groups with undergraduate students, and revealed that students set clear boundaries between educational and social spaces on the Web and the library. It can be said that each generation of technology users has its own purpose and expected values from new technologies (Magsamen-Conrad et al., 2015). In terms of terminology used in the current study, Tess (2013) uses terms, such as social media, Facebook and Twitter, interchangeably and addresses their visibility in higher education settings to enhance and promote active learning for students. Similarly, Ezumah (2013) uses the terms social media networks, social media networking sites and social media network sites interchangeably, based on their ubiquity, by researching college students' use of social media.

Focusing on the younger generation, namely students, the guiding research question for the current study was: "How do students perceive the acceptance and use of social media in an academic library setting?" To answer this question, we drew on the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). The authors developed and tested their theory using quantitative analysis; however, other researchers have also adopted a qualitative approach to gain an in-depth understanding of the factors that affect user acceptance of technology (see Gruzd et al., 2012; Saravani, 2013; Rempel and Mellinger, 2015; Ma et al., 2016).

The current study used a qualitative approach to gain an in-depth understanding of students' perceptions and insights regarding the acceptance of Facebook and Twitter at two academic libraries. Qualitative research has a smaller sample size and is based on researcher engagement

in the phenomenon, gathering data which provides a thorough description of events, situations and interaction between people, things, providing depth and detail (Sachdeva, 2008). The aim of the study was to investigate the use of these platforms by students in an academic library environment, using the UTAUT (Venkatesh et al., 2003) constructs to ascertain students' behavioural intentions to use specific technologies.

Additionally, to explore the importance of national, cultural and social contexts, students were selected from two universities in different countries. The University of Antwerp (UA) is situated in an urban context in Belgium, Western Europe. It was founded in 2003 after the merger between three universities (University of Antwerp, 2020a) and it has approximately 20 812 students, which makes it the third largest university in Flanders (University of Antwerp, 2020b). The University of Limpopo (UL) is based in a more rural context in South Africa. The UL was formed in 2005, by the merger of the University of the North and the Medical University of South Africa (MEDUNSA). The University of the North was established in 1959 under the apartheid regime's policy of separate ethnically based institutions. In South Africa, the merger of historically disadvantaged institutions was seen as an opportunity to rid the post- 1994 academic system of deep-rooted apartheid era distortions and inequalities in the broad education system (Mohuba and Govender 2016). However, the merger between the University of the North and MEDUNSA brought about administrative difficulties which led to the demerger of these institutions in January 2015 (University of Limpopo, 2014).

We realise that the institutions studied are vastly different in many respects, but we do think it is useful to compare them to learn about contrasting perceptions and uses of social media across different contexts. We deliberately chose these institutions for two reasons. The first was that they present interesting differences in their digital services and in particular in their adoption of Facebook and Twitter in the library context. The University of Antwerp Libraries (UAL) offer a vast array of electronic resources and are forerunners of emerging technologies to enhance service delivery. As we will elaborate below, they have adopted Facebook and Twitter as a communication tool in the library context, while the University of Limpopo Libraries (ULL) have not. More generally, the ULL suffer from a poor infrastructure and more limited digital services, so juxtaposing it with the UAL may help to ascertain the potential benefits of introducing social media in the library context. In this way, the use of Facebook and Twitter by the UAL was used as a benchmark, to enhance the current practice at the ULL. As the ULL are focusing on offering equal opportunities to disadvantaged students, adopting Facebook and

Twitter may be a way to meet student needs and to offer students in this university in the Global South similar opportunities as students in the Global North. The second reason we chose to study these two institutions was more practical. The UL was a partner university in several Erasmus Mundus Partnerships programmes, including the Europe-South-Africa Partnership for Human Development (EUROSA) programme coordinated by the University of Antwerp (2017a) and promotes mobility for South African and European students, researchers, academic and administrative staff (University of Antwerp, 2017b). As the first author took part in that programme, and was a student at the UA as well as an employee at the UL, she had first-hand knowledge of both institutions and the opportunity to study their differences from within.

Theoretical framework

A number of theories have been used to explain and understand the acceptance of new technologies, including: the Theory of Reasoned Action (TRA) (Ajzen 2012); the Theory of Planned Behaviour (TPB) (Ajzen 1991); the Technology Acceptance Model (TAM) (Davis 1986); the Diffusion of Innovations theory (DOI) (Rogers 1995); and the Technology Acceptance Model (TAM) (Venkatesh and Davis 2000). The current study used the UTAUT model to explain the factors that affect user acceptance of social media. The UTAUT model focuses on intention to use technology predicting behavioural intention. Venkatesh et al. (2003) researched and empirically tested their information technology (IT) acceptance model against eight other competing models, each with different sets of acceptance determinants, assessing the similarities and differences across all eight models. The models reviewed were the TRA, the TAM, the Motivational Model, the TPB, a model combining the TAM and the TPB (C-TAM- TPB), the Model of PC Utilisation (MPCU), the DOI, and the Social Cognitive Theory (SCT). The UTAUT was tested and found to outperform the eight other models. We found seven constructs to be significant direct determinants of acceptance and use of technology in one or more of the individual models. The outcome was a unified model, the UTAUT, formulated around the core constructs of intention and usage. Thus, we propose four constructs of technology acceptance (behavioural intention) and use behaviour, namely: performance expectancy, effort expectancy, social influence and facilitating conditions. Venkatesh et al. (2003) define these terms as follows: “performance expectancy” is the extent to which an individual believes that this system will help to improve working performance; “effort expectancy” refers to the ease of use of the system; “social influence” is the extent to which an individual perceives that people who are important to him or her think he or she should use the system; and “facilitating conditions” is the extent to which an individual believes an existing

organisation or technical infrastructure will support the use of the system. The theory also suggests that these four constructs are moderated by gender, age, experience and voluntariness of use (see Figure 2).

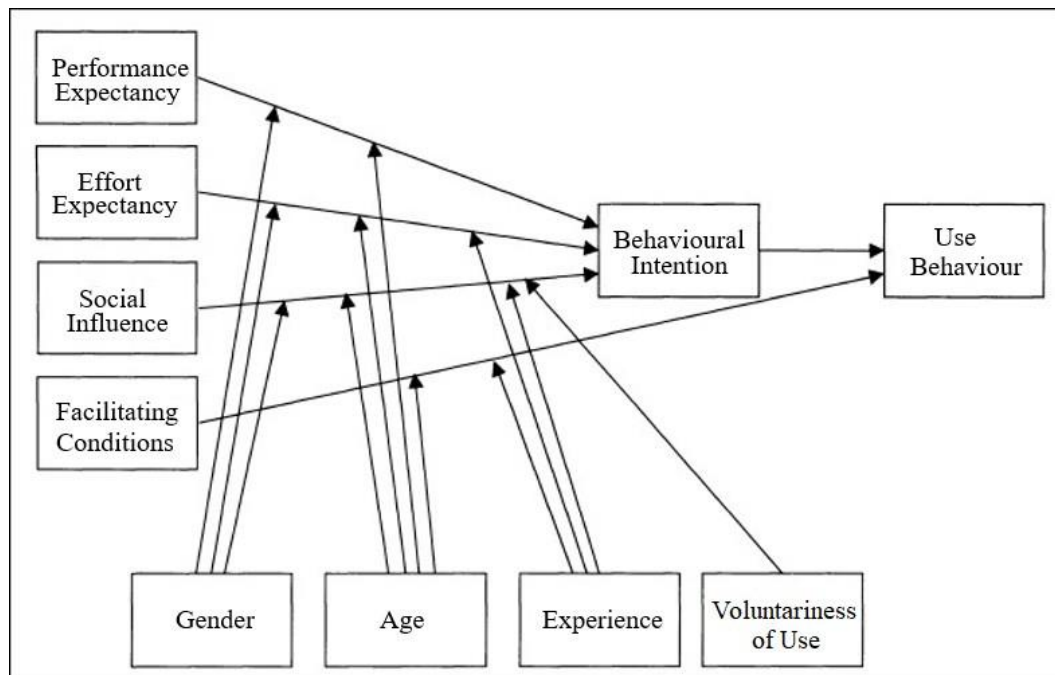


Figure 2: UTAUT model (Venkatesh et al., 2003).

Among other fields, the UTAUT model has also been used to study technology acceptance and use in academic libraries. For instance, Sejane (2017) conducted a survey regarding access to and use of electronic information resources in academic libraries in Lesotho. Based on the UTAUT model, the study adopted a mixed methods approach and reviewed the use of electronic resources in academic libraries for teaching, learning and research purposes, revealing positive behavioural intention to use new technology. Similarly, Kibugi (2013) used the UTAUT model to explore the relevance and use of social media to disseminate information in eight libraries in Kenya, four of which were academic libraries. The study found that not all academic libraries were in favour of accepting social media, but that many academic libraries were using social media as a communication tool, which was related to ease of use, and also that libraries with good internet connectivity were more motivated to introduce social media services to communicate with their users. Challenges include unstable internet access, power outages, lack of technical knowledge to use social media, and restrictive ICT policies. Similar challenges were noted in a qualitative UTAUT study by Mpoeleng et al., (2015), who researched perceptions of librarians and management on the usage of Web 2.0 technologies using online questionnaires at the University of Botswana. The respondents perceived social media as non-beneficial to disseminating information, indicating that performance expectancy did not enhance their job performance. Although social media are said to be easy to use, the study

reported a lack of relevant skills and experience.

Chaputula and Mutula (2018) reported on a study that they conducted to determine academic and library related uses of mobile phones with internet connectivity by students in universities in Malawi. Their findings show a high percentage of mobile devices owned by students, which were used for searching electronic books, electronic journals and library catalogues. Most of the students in the study indicated ease of accessing services using mobile phones. The students responded positively to the availability of library and information services, using mobile devices to access their email and instant messenger, but were not keen to frequently access social media such as Facebook and Twitter. Similarly, Wong et al. (2015) explored the factors that influence users' behavioural intention to adopt mobile social media in facilitating formal or informal learning. Drawing on the UTAUT model, they found that performance expectancy and effort expectancy had a significant effect on behavioural intention. They also discovered that effort expectancy was influenced by mobility, reachability and convenience.

Although the UTAUT has been used in both quantitative and qualitative research to explore social media acceptance and use in academic libraries, the results are mixed: while the advantages of Facebook and Twitter have been widely reported, a number of challenges have been identified. To further explore the contextual nature of these challenges, we will use UTAUT to compare two specific library settings.

Methodology

Qualitative research includes various methods such as case studies, participatory inquiry, interviewing, observation, visual methods and interpretative analysis (Denzin and Lincoln 2008). For this exploratory study, we used interviews drawing on the UTAUT model to examine factors that affect the acceptance and use of social media in an academic library setting. The second and third part of the interview contained specific questions based on the UTAUT model, but the researchers phrased questions generally without using jargon pertaining to the conceptual model.

The population of the study comprised students from two regional settings: Flanders, the strongly urbanised Dutch-speaking region of Belgium, and Limpopo, a more rural region in South Africa. Beside the different countries involved, the main difference between these two regions concerns the lack of digital connectivity, which is much more prominent in Limpopo. Ali

(2011) emphasises that physical access is only one aspect of the digital divide, as there are many forms of digital divide such as not having the latest and modern computer or the lack of internet connectivity. As explained in the introduction, we selected one university within two regions, the University of Antwerp and the University of Limpopo, respectively. The UAL have adopted social media platforms, in particular Facebook and Twitter. While Facebook and Twitter were adopted institution-wide at the UL and are managed by the Marketing and Communication Department, the university blocks the use of these platforms during core business hours, as a result, the ULL have not adopted social media platforms. The Website policy states: “Marketing and Communication shall be the only unit to approve any content and or information to the University website including design and development” (University of Limpopo, 2016), which includes social media networks.

We used a nonproportional quota sampling method for the study. Trochim (2001) notes that researchers are not concerned with having numbers that match the proportions in the population; instead, they simply require to have enough to assure that they will be able to talk about small groups in the population. To obtain the sample, first a request to conduct research was submitted to the executive management of each university. After consent was received, invitations were submitted via the student email listserv to all registered students at both institutions. Students who accepted the call for participation were contacted personally and interview sessions were arranged. After confirmation, a semi-structured, in-depth, one-on-one interview process followed. To add focus to the research, we limited the range of social media studied to Facebook and Twitter, but in the context of the interview we used the term “social media” interchangeably, while making sure that the respondents understood we were mostly talking about Facebook and Twitter. The first author conducted face-to-face interviews with respondents residing in Flanders between September and December 2016. While Voice over Internet Protocol (VoIP) interviews were intended to be conducted with respondents residing in South Africa, factors such as low response rate and internet connectivity problems led to the interviews being conducted using both VoIP and face-to-face methods. To accommodate students the snowball technique was implemented and soon the quota of 15 students was reached. Snowball sampling is a qualitative sampling technique where respondents recommend persons who might be willing to participate in the study (Osugwu 2020). Three students were interviewed using VoIP and 12 were interviewed face-to-face. The interviews were held between December 2016 and November 2017. Thirty students were interviewed, 15 from each institution. Respondents were a mix between undergraduates and postgraduates from different faculties, and ages

ranged from 18 to 62 years. Participation was voluntary and the respondents' identity was kept strictly confidential.

Ethical clearance was granted by the ethical board of the UA and permission was granted by the UL to conduct the study. To ascertain anonymity, only the researchers had access to the raw data and names of interviewees for communication purposes. We assigned codes according to each university and a corresponding numeric number. For the UA, first we identified the institution (UA) followed by the abbreviation "S" for student, and the numerical code (1 to 15). For example: UAS#1. We used the same system for the UL, using the numerical codes ULS#16 to 30.

The interviews lasted between 30 and 45 minutes and were audio-recorded. They were transcribed and the data was organised and coded into pre-identified themes and nodes obtained from the conceptual model. In the first stage, the first author reread the transcripts and made notes of interesting ideas or statements. These were preliminary themes as she was looking for similarities and differences, extracting concise phrases related to the conceptual model (Smith and Osborn 2008). During the second stage, themes were listed looking for connections between them where important themes were clustered and linked to the pre-identified themes as outlined in the UTAUT model. The third stage involved continuing the analysis with other cases by incorporating interview data from different respondents, looking for repeating patterns and new ideas. The final stage was concerned with moving from the final themes to a write-up and final statement outlining the meaning inherent in the respondents' experience (Smith and Osborn 2008).

Results

For the sake of clarity, we will first discuss the findings separately for each institution, distinguishing between the four central UTAUT constructs, namely: performance expectancy, effort expectancy, social influence and facilitating conditions. Subsequently, we will compare both institutions, in order to better understand the contextual factors of influence on the students' perceptions of technology acceptance, behavioural intention and use behaviour.

University of Antwerp

Performance expectancy

Performance expectancy is understood as the benefits the student will enjoy with new technology in relation to their academic performance. In the interview, the following question was posed: Do you think that the use of social media in academic libraries would improve your academic performance? In their responses, the students viewed the library as a provider of physical space and most were in favour of a one-stop platform to cater for all their needs and queries. A number of respondents perceived social media as having a positive effect on their academic performance: “I do find social media useful. For students it is easy to talk to people and it is easy to look up information and to ask questions. I accomplish tasks quicker when you ask questions on social media.” UAS#2, UAS#3 and UAS#5 also found social media useful and effective in supporting scholarly communication. These statements support the construct performance expectancy; as social media were perceived as beneficial to academic library use. These platforms were seen as effective communication tools and information sharing was seen as an important factor by these students.

Effort expectancy

According to Venkatesh et al. (2003), effort expectancy can be described as perceived ease of use. Quite a few respondents (UAS#2, UAS#4, UAS#5, UAS#6 and UAS#11) perceived social media as easy to use. They asserted that anyone with basic knowledge of the Internet and computers will find social media easy to use. One student emphasised: “With social media it is easy to talk to people and easy to look up information and ask questions” (UAS#5).

Instead of commenting on UAL posts on Facebook, some students prefer to only “like” a page, indicating their active way of engagement as well as the posts’ suitability. Other respondents agreed:

“Students adapt easily and no training is required”. (UAS#13)

“Yes, for generation Y it is easily accessible and response time is fast”. (UAS#6)

“It [Facebook and Twitter] provide an open means of communication and when I don’t want to leave a comment, the “like” button allows me to easily interact with status

updates". (UAS#14)

"Yes, it is fast, and it feels good to "like" posts. It is easy to share something [information]". (UAS#15)

While most respondents at the UA felt that social media were easy to use, and most perceived Facebook and Twitter to be useful for academic purposes, not all were in favour of using Facebook and Twitter in an academic context. One respondent was a non-adopter, two were against the use of social media for academic purposes, and three voiced concerns regarding privacy. Privacy was linked to information being public on open platforms; these respondents considered the use of Facebook in an academic context as unprofessional. One respondent (UAS#1), who is an avid user and adopter of Facebook, expressed strong feelings regarding the level of security. He believed that open platforms such as Facebook posed a privacy risk, adding:

"I set my privacy settings so that only certain people can view my posts" (UAS#1).

Social influence

Venkatesh et al. (2003) conceptualises social influence as the extent to which an individual perceives that important others believe they should use a particular technology. While the students did not refer to fellow students as important others in this context, they did refer to the library itself as an instance expecting and stimulating them to use Facebook and Twitter. Respondents agreed that the UAL' decision to adopt and use Facebook and Twitter was supportive of student's needs. Seven respondents noted that the library was supportive, making comments, such as "Students will fall behind if the library does not provide the needed resources" (UAS#6) and "Everything is neatly packaged, and you can also send it easily to other people" (UAS#15). The respondents felt stimulated and comfortable enough to react to posts on the library's platform and they believed that open platforms such as Facebook and Twitter are much needed. The interviews confirmed that students' attitudes and beliefs were influenced by management's decision to adopt Facebook and Twitter and the concomitant expectation of student usage.

Facilitating conditions

Facilitating conditions were defined by Venkatesh et al. (2003) as the degree to which an individual believes that an organisational and technical infrastructure exists to support use of

the system. In the interview, we asked: “Do you have the necessary resources and knowledge to use the system and do you think the library is supportive of social media?” Respondent UAS#15 felt that the library was supportive of his academic needs by adopting social media and creating a positive environment conducive for learning, stating: “Using social media channels to communicate information directly from the university library to students is fast.” The UAL created facilitating conditions and provided an enabling environment for students with the required resources such as internet capabilities, Wi-Fi connectivity, strong infrastructure and bandwidth, as well as Facebook and Twitter as mediums of communication. Thus, the availability of technological resources and infrastructure constituted facilitating conditions for the acceptance and use of Facebook and Twitter in the UAL.

University of Limpopo

Performance expectancy

Using platforms such as Facebook and Twitter as an information hub, students can be kept abreast of new developments at the ULL, such as newly acquired material and electronic resources, which could enhance academic performance. When asked whether they thought the use of social media in academic libraries would improve their academic performance, most UL respondents answered affirmatively. A significant number of them did have smartphones with internet capabilities, more so than laptops, and they believed that smartphones enabled them to improve academic performance. The respondents felt that Facebook and Twitter were accessible on their smartphones where information could be shared on these platforms enabling communication and collaboration between the library and the students. The students’ behavioural intention to use social media for professional and academic purposes reveals that they were most likely to accept new technology, as they believed it would enhance communication and their academic performance. To them, the non-adoption of social media by the ULL indicated that environmental matters and infrastructure development of ICTs were not considered important by the university. The majority of UL students interviewed felt that these factors hampered their educational growth and were barriers to quality education and they feel that the library should adopt social media: “I feel social platforms are very useful for communication and spreading of information. The use of social media is a good idea because most students are on social media therefore the library can reach more people” (ULS#18). Even if social media were adopted by the UL, the respondents felt that the benefits could be limited based on the inadequate and poor internet connectivity. Performance expectancy was based on

how social media would help students perform in their academic work and allow them to be more productive. The respondents perceived social media services as convenient, accessible, and a time saver. They considered the sharing of information on suitable platforms to be an essential method to support students' academic work, minimising situations such as queuing for lengthy periods and dealing with employees face-to-face.

Effort expectancy

The UL respondents expected the learning environment to be easy to use and to spend as little as possible time to source information. They related effort expectancy to speed and preferred the swift response that social media offered, positively assessing their ease of use. Fourteen respondents agreed that social media were easy to use but observed that this method of communication was not implemented by the library. Twelve respondents used social media for personal and academic use, and three were linked to private groups on Facebook created by their peers for academic sharing. Eight respondents perceived social media as easy to use and experienced no major challenges as they were familiar with the technology. The challenges they identified were related to the non-adoption of Facebook and Twitter by the library. Their expectations of an academic library were high and they thought the services of an academic library should be vastly different from those of a public or school library. They felt let down by the lack of innovative ideas, which respondent ULS#22 expressed as follows: "I think the library should adopt social media and come up with a programme of action to show [their innovative ideas]". All the respondents were in favour of adopting Facebook and Twitter in the academic library setting, as they perceived this mode of communication as easy to use.

Social influence

As mentioned above, social influence is the extent to which individuals perceive that people who are important to them think they should use the system (Venkatesh et al., 2003). The study focused on students' responses to social influence as well as their perceptions of the (non-)adoption of these platforms by the ULL. Most of the respondents were avid users of digital technology, especially social media such as Facebook and Twitter. The social influence of the university library was limited in this respect, due to its non-adoption and lack of support for these technologies. However, the interviewees felt that Facebook groups created by themselves were supportive and as such promoted social media use. The respondents started using social media based on referrals by other students. They viewed social media as important for their academic growth, criticising the lack of support by the university library:

“I don’t think this is the way a library should be; it doesn’t meet the requirement of being an academic library. We meet people this way”. (ULS#23)

“Having no social media is not good because sometimes when you read you need the Internet and social media will increase our interest to come to the library and read while surfing information”. (ULS#26)

“The ULL needs to be improved especially with social media so that things can be easy for the students to find in the library and easy to communicate”. (ULS#21)

The respondents felt that the social media buzz is rife but that they do not receive enough support from senior management which is not doing enough to help promote social media. This question generated negative responses with 12 out of 15 respondents who thought that the library and the university were not supportive of their digital needs. However, three respondents were content with the library not having social media as they prefer not be pressurised to use a specific technology. If mandatory, Gruzd et al. (2012) note that social influence may lead to stress and anxiety and may lead to some students not adopting social media.

Facilitating conditions

Facilitating conditions refer to the degree to which students expect the university, enabling infrastructure, Wi-Fi and internet capabilities, as well socio-economic conditions to be available to support the adoption and use of Facebook and Twitter. Based on the ban placed on Facebook and Twitter during core business hours, using their own internet capabilities, are students able to access these sites? In the interview, we asked: “Do you have the necessary resources (use of your own Wi-Fi or data) and knowledge to use the system and do you think the library is supportive of social media?” The UL interviewees described their frustrations as the lack of resources impacted on their workflow within the academic environment. Some of the respondents felt that the library was not supportive of their academic needs, socio-economic conditions and digital growth. Digital inequality was strongly expressed and apart from the lack of social media platforms, internet connectivity was intermittent. Respondent ULS#28 noted:

“I also have a daily limit of data and regularly experienced network problems. I am in favour of Facebook and Twitter adoption and feel the library can share links to e-books and as the law

section in the library is for [in-library] use only, e-books and electronic articles can be shared on social media”.

Respondent ULS#21 said:

“I think that the library, you know, we are modernised so we should be able to integrate technology and education at the same time. So, if you are using social media platforms, like Facebook and Twitter, you actually integrate the two as one and attract more young people into reading, into being interested in actually going to the library”.

The respondents felt that the UL was not supportive of ensuring bandwidth and reliable Wi-Fi connectivity and that the ULL were not supportive of Facebook and Twitter. Most telling in this regard is the UL’s rule to close Facebook and Twitter during core business hours.

Clarification of the UTAUT constructs

Our analysis confirmed the importance of the four main UTAUT constructs to understand the use and adoption of social media in academic library settings. While there were a number of similarities between both settings, there are also clear differences which will be discussed below.

Performance expectancy

In relation to the perceived usefulness of social media for academic performance, students across both settings emphasised the benefits of social media, in particular Facebook and Twitter, for communication, dissemination of information, and promoting library activities. The respondents viewed the adoption of these platforms as a critical component of contemporary academic libraries. However, for the UL respondents this expectation was higher, as this service was not available to them yet and they clearly yearned for it. These students in particular perceived Facebook and Twitter as a crucial means of communication and sharing information, which would be beneficial to their academic performance. They considered the non-adoption of Facebook and Twitter by the ULL as a big challenge, as they saw it as an accessible tool to quickly communicate and share information, thus to improve academic work and productivity.

Effort expectancy

Across both settings, the respondents considered Facebook and Twitter as easy to use. Most interviewees were familiar with the technology, and most had smartphones which allowed easy access to these platforms. A major difference, again, is the actual access to Facebook and

Twitter, which is limited at the UL, due to the university's rule to close Facebook and Twitter during core business hours in conjunction with the lack of access to resources. Here, the introduction of Facebook and Twitter would need to be supported by additional training, in order to optimise use in an academic setting. In Antwerp, where students did have access to Facebook and Twitter in the academic library setting, some students preferred not to use Facebook and Twitter in this context, in part because of privacy concerns.

Social influence

Social influence, in the UTAUT context, refers to the extent to which an individual perceives that important others believe they should use a particular technology. Here, we see a clear difference between both settings. At the UA, students felt stimulated by the institution to use Facebook and Twitter in a library setting. By actively using these platforms as communication tools, the university library created a supportive environment and built relationships with its users, thus influencing the adoption and use by students. At the UL, on the contrary, the respondents felt they were not supported by senior management to use Facebook and Twitter for academic purposes in the library environment. As a consequence, these students felt that they were lagging and lacking the required tools and skills to enhance their academic performance. However, some students started using social media based on referrals by other students and joined self- created Facebook groups, clearly indicating the important social influence of peers.

Facilitating conditions

At this level, the differences between both institutions are the greatest. At the UA, internet infrastructure and Facebook and Twitter platforms were widely available, thus creating all the necessary conditions to facilitate the use of Facebook and Twitter in the library setting. At the UL, internet access was limited and Facebook and Twitter were not supported in the library setting, actively discouraging students from using them. The respondents felt that the academic library was not doing enough to assist with the implementation of Facebook and Twitter tools, which resulted in poor communication. They believed that technology, resources and infrastructure support management's provision of the use of Facebook and Twitter.

Discussion

The main research question guiding the study was: "How do students perceive the acceptance and use of social media in an academic library setting?" The findings from the in-depth

interviews provide an understanding why students use and prefer Facebook and Twitter platforms over other forms of communication. These findings contribute to existing literature and can also help academic libraries to adopt and use the technology to promote, share and disseminate information. At the UAL, the adoption and use of Facebook and Twitter has been a continuing process with differing levels of support. At the UAL, high levels of support have been achieved and Facebook and Twitter were easy to access. At the ULL, financial implications and aging infrastructure were viewed as major challenges and determining factors for non-adoption.

The UTAUT model helps us to better understand the use and adoption of Facebook and Twitter by students. While students, in both institutions, do think Facebook and Twitter are important communication tools in an academic library setting (performance expectancy), which is easy to use (effort expectancy), at the UAL the necessary facilitating conditions and social support are present, while these are mostly absent at the ULL. Within this overarching picture, however, it is important to point out that not all students were interested in using Facebook and Twitter in a university library setting. Some of the UA respondents raised concerns about privacy, while some of the UL respondents felt the use of Facebook and Twitter should not be obligatory. Across both settings, there was a shared concern that Facebook and Twitter should be available and accessible, but that students should not be forced to use them, which connects to voluntariness of use as a moderating variable in the UTAUT model.

In order to successfully introduce Facebook and Twitter in an academic library setting, it is crucial to both provide institutional support and to create adequate facilitating conditions. At the UAL, these conditions were met and although the UAL provided appropriate infrastructure to facilitate the use of Facebook and Twitter technologies, some respondents indicated disinterest to use these platforms as they were content with their current methods of communication. These students did not use Facebook and Twitter as frequently for academic purposes due to the diversity of other media and platforms available to them as part of their educational experience. This echoes the findings of Collins and Quan-Haase (2014) and Burhanna et al. (2009), who each discussed the boundaries set by students between educational and social spaces as some of them preferred professional mediums of communication such as e-mail. At the ULL, facilitating conditions were not conducive to support the adoption and use of Facebook and Twitter, which sparked unhappiness and dissatisfaction among respondents. These students perceived that the adoption of Facebook and Twitter would assist them to

frequent the library's digital platform regularly and to share information on real-time online platforms. Facilitating conditions depend on library management to provide suitable environments, technical support, required training and resources to facilitate communication activities and participation with academic libraries.

The UL respondents strongly voiced their intention to use Facebook and Twitter but felt that the university environment impacted negatively on their growth and that the university did not make sufficient resources available. Students were using mobile devices to connect to Facebook and Twitter, despite the institutional ban during core business hours. This illustrates the continued presence of a strong digital rift, particularly in a developing country where poor socio-economic conditions are evident. In this way, the current research echoes the findings of Kibugi (2013), who also reported the challenges identified by respondents, naming unstable internet access, unstable power, lack of technical knowledge on the use of Facebook and Twitter and restrictive ICT policies as the major factors linked to non-adoption of Facebook and Twitter. In contrast, Chaputula and Mutula (2018) reported that the usage of mobile technologies was negatively received because of the small screen size, high data costs and slow internet speed that were contributing factors influencing access to library services. This corresponds to some respondents from the UA who preferred to use laptops and desktop computers over mobile devices for many academic and library related activities, including Facebook and Twitter.

To increase the use of Facebook and Twitter, the ULL should strive for a user-centric approach to promote the library's services. While the ULL do not have Facebook and Twitter accounts, the UAL have been offering two types of social media, Facebook and Twitter, to keep abreast with developments in the field. The findings show that most of the UL respondents were in favour of Facebook and Twitter as it exposes them to national and global collaboration with peers in their field of study, but they feel that they do not have enough support from senior management within the library to adopt Facebook and Twitter. This is in line with Mpoeleng et al. (2015), who found that the institution was not doing enough to help with the implementation of social media tools. These authors also perceive digital literacy as a factor facilitating social media usage and Kibugi (2013) concurs, also encouraging academic libraries to support and develop information literacy skills among students. Wong et al. (2015) found that updated infrastructure, access to technology and training opportunities acted as facilitating conditions motivating students to use technology for academic purposes.

Conclusion

There are clear disparities between the two academic libraries in terms of good infrastructure and support from the university's management. Based on these findings, it is suggested that the ULL should benchmark service delivery to continuously improve their facilities and to keep abreast of students' needs. They should update communication channels using innovative methods, to improve the dissemination of information and to create an easier and faster method of communication that is widely acceptable by students. Facebook can be used as a forum for research-related discussions and for the sharing of academic content, in order to increase collaboration, creating interactive dialogue. Facebook and Twitter offer flexibility to communicate in a virtual space without direct contact and allow 24/7 access to information posted by the ULL. Keeping a balance between virtual and face-to-face interactions, facilitating conditions should be improved to support students' willingness to use Facebook and Twitter. According to the responses from students at the UL, library management should take a leading role to develop and enable academic library services to students using Facebook and Twitter. Furthermore, Facebook and Twitter have become favoured alternatives as communication tools between the UAL and the majority of the respondents in the study, so too proposed by the UL respondents. The study established that Facebook and Twitter are not foreign to student respondents at a rural university and revealed their need to use these platforms for information sharing and to accommodate them on platforms that are accepted by them. This being an innovative means of communication offer opportunities for the ULL to deliver virtual services to students.

While building upon existing literature using the UTAUT model, our qualitative approach allowed to better understand the lived experiences of students and their perception of the various factors influencing their acceptance and use of Facebook and Twitter. Moreover, the study identified opportunities for improvement and we were able to clearly see the importance of contextual factors. By benchmarking a rural university library, the ULL in the Global South, against an urban university library, the UAL in the Global North, the study could identify the lack of digital connectivity, which most clearly manifested in the facilitating conditions for the usage of social media at the ULL. However, we are aware that some of the study findings may be related to the specificities of the institutions studied, so further research on other academic libraries is warranted. Moreover, as the study was based purely on students' perceptions, further research is necessary to better understand the importance of financial and infrastructural restrictions on the adoption of Facebook and Twitter in academic libraries, also including the

views of librarians and administrators. Finally, quantitative research using larger and representative samples would be necessary to ascertain the relative importance of the UTAUT constructs, which were only provisionally observed based on the small study sample. This would also allow researchers to explore the role of the moderating variables age, gender, experience and voluntariness of use, of which some indications were found but no conclusions could be drawn.

CHAPTER SEVEN: DISCUSSION AND CONCLUSION

7.1 Introduction

This study prompted an interest in demonstrating that social media is a critical component within academic libraries and, as such, academic libraries should have an online social media presence. The above research was done to explore the potential of using social media as a tool for fostering library values and improving library services at a university on the outskirts of South Africa.

There is a strong emphasis in the study on the use of social media to bridge the digital divide between underserved institutions to facilitate equitable opportunities for students and library professionals. Therefore, it is crucial to emphasise the role social media plays in facilitating the social inclusion of marginalised student populations.

The research examined interconnected problems such as social media adoption and use, employee morale, the library as place, and student perceptions of social media adoption and use. The adoption of innovative technologies depends on the availability of sufficient funds to cover the excessive costs of ICT infrastructure, reliable bandwidth, and sufficient, qualified, and competent technologically savvy people. However, there are discrepancies in how academic libraries provide access. These concerns highlight the critical role of social media in facilitating social inclusion for marginalised student communities.

The primary research framework for this study is the Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT model and UTAUT2 model are both widely used frameworks for examining technology adoption and acceptance. However, there are some differences between the two models. One argument in favour of using the UTAUT model as the primary research framework is that it is widely tested and recognised for understanding technology adoption and acceptance (Kaba and Touré, 2014; Li and Zhao, 2021; Wijaya et al., 2022). Another argument for using the UTAUT model is that it includes key constructs highly relevant to technology adoption and acceptance in academic libraries. For example, the UTAUT model includes constructs such as performance expectancy, effort expectancy, social influence, and facilitating conditions (Rahi et al., 2019). These constructs are all highly relevant to understanding technology adoption and acceptance in academic library settings. On the other hand, one argument against using the UTAUT2 model is that it may be more complex

(Tamilmani et al., 2021) and difficult to operationalise than the original UTAUT model. The UTAUT2 model includes additional constructs such as hedonic motivation and habit (Nikolopoulou et al., 2021). In academic libraries, these constructs may be less relevant or more difficult to measure. In this regard, the broader recognition, validation, and inclusion of relevant constructs constitutes the motivation for the use of the UTAUT model as a more suitable framework.

The research questions were developed based on UTAUT and by utilising similar models, including Davis' theory of "perceived ease of use," Rogers' "diffusion of innovations" theory (1995), Bourdieu's social capital theory and its application in academic libraries include developing relationships and networks among library staff, faculty, students, and community partners. Creating a supportive and collaborative environment can promote the utilisation of library resources and services (Bourdieu, 1986: 2). Robert Putnam's idea of social capital, which encompasses social organisational factors such as networks, norms, and social trust that aid in coordination and cooperation for mutual gain, also supports this notion (Putnam, 2000: 143). The UTAUT framework proposes that the decision to accept and use new technology, such as social media platforms like Facebook and Twitter, depends on four main constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. UTAUT was considered an appropriate theoretical framework because it provides these four overarching constructs, allowing the research to explore the relationship between "performance expectancy and social capital," "effort expectancy and perceived ease of use," "social influence and adoption of social media," and "facilitating conditions and the library as a place," all with the inclusion of perceived factors. Challenges such as "digital inequality" may be classified as non-facilitating conditions, which can have a negative impact on the successful adoption of social media in an academic library. Perceived ease of use, which was studied in this research, explains the technology acceptance and academic librarians' predicted behaviour.

Thus, this research aimed to evaluate the use of social media platforms by academic libraries in addition to their role in enhancing communication. The study also attempted to demonstrate how establishing real-time two-way communication would improve library services by creating innovative means of sharing library information, promoting training interventions and enhancing the library profession and preventing academic libraries from becoming stagnant.

To explore the research problem, the researcher had developed the main research question *“To what extent and how do academic libraries in Belgium and South Africa use Web 2.0 technologies to promote library services and sharing of information?”*

From the main research question, sub research questions were developed according to each study as outlined below.

7.2 Sub- research questions (SRQ)

Study one: How do academic librarians use Web 2.0 technologies in their professional environment?

- SRQ1: Have Web 2.0 technologies been adopted by academic libraries?
- SRQ2: How is this technology applied in libraries’ operations and services?
- SRQ3: What are the challenges faced in keeping abreast with changing technology or remaining current with new developments within the profession?

Study two: Investigates the non-adoption of social media at ULL and how it affects staff morale

- RQ1: What are the factors that hinder the social media adoption process?
- RQ2: What effect does non-adoption of social media have on employee morale?

Study three: Seeks to understand social capital, relationship building, and the library as a place, aiming to answer two specific research questions

- RQ1: How is social capital created in academic libraries?
- RQ2: How is the digital environment used to create social capital?

Study four: Draws on the Unified Theory of Acceptance and Use of Technology (UTAUT), focusing on the student respondents and seeking to answer the research question:

- RQ: How do students perceive the acceptance and use of social media in an academic library setting?

Against this backdrop, this study examined how ULL and UAL use social media as scholarly platforms and as a means of disseminating general information to their respective student communities.

7.3 Research design and methods

The study was based on qualitative research methods. Data were gathered with the help of semi-structured interviews. A qualitative research design was chosen as it was anticipated that this method would provide the best value in gathering relevant information. The sampling of interviewees included both library professional respondents and student respondents. In the first phase six higher education institutions were selected from Belgium and South Africa and interviews were taken among sixteen library professionals and one network manager. The first and second studies used the data collected from library professionals. In the second phase, interviews were conducted only among students at the University of Antwerp and the students at the University of Limpopo to explore the similarities and differences in respondents' perceptions of their respective libraries. Fifteen students participated from each institution. The third study was based on the case study of two academic libraries, University of Antwerp Libraries and the University of Limpopo Libraries. Study three combines data collected from library professionals at these institutions as well as the student respondents. The fourth study was based on interviews taken among fifteen students each from the University of Antwerp and the University of Limpopo.

7.4 Discussion of main themes

Key themes were addressed throughout the interviews: technology, privacy, barriers, digital divide, and the benefits of social media.

7.4.1 Technology

Technology in this context refers to the adoption and use of Facebook and Twitter and the accessibility or availability of tablets and smartphones to form part of blended learning, electronics, and communication output. Respondents at University of Antwerp (UA) and the University of Limpopo (UL) reported that they owned and used smartphones to access social media pages. Although not all students at the UL had smartphones with internet connectivity, the situation at the UA was different with all students having smartphones and one student who was in the process of acquiring one. The usage of tablets, smartphones and 3G cards are encouraged when internet connectivity fails to allow the continuation of services and accessing information easily and conveniently. The software used to seek information involved Facebook and Twitter applications as instant messaging platforms.

7.4.2 Privacy

During the interview process, the term privacy was expressed as a matter of concern to describe respondents' communication preferences. According to the student respondents at UA, although Facebook and Twitter enhanced their information seeking and communication activities, these activities should provide some privacy aspects. Incidences of policy bridging could be alarming and academic libraries should think of rethinking this and enforcing policy rules and regulations and ensuring privacy settings are in place as a security measurement. This comment is not linked to account hacking but mostly ensuring that the latter are in place and students feel free to comment on posts. Students should also be cautioned against sharing private information on public accessed forums.

7.4.3 Barriers

Throughout the interviews, barriers were also frequently discussed. With the rise of more social media platforms academic libraries need to find their role and mission and ascertain the feasibility of the preferred platform to facilitate service delivery. As indicated by library professionals from the ULL, the lack of social media literacy skills as an administrator and poor university technological infrastructure were critical factors that need to be addressed to obtain the benefits these platforms are providing. Library professionals at the UAL are well skilled and informed and handled their social media posts professionally. Student respondents for the University of Limpopo were not particularly concerned with privacy settings if Facebook and Twitter are adopted but as indicated by student respondents from the University of Antwerp the use of social media should be approached cautiously to avoid problems with privacy settings. In response to the above, this can only be breached if a respondent replies to a post but with the use of administrators to make responding information available or not available, the privacy matters are well attended to. According to the study Facebook and Twitter are the most preferred social media platforms to enhance student engagement.

7.4.4 Digital divide, and benefits of social media

The role of academic libraries in bridging the digital divide from the perspectives of librarians and students was examined, comparing, and contrasting South African and Belgium academic libraries. Four related studies were conducted, and it was found that the adoption of Web 2.0 with a special focus on social media was an important developmental aspect considered by academic libraries. The findings, considering the opinions, views, and experiences of library professionals, revealed that, amid the excitement surrounding social media adoption, an

academic library in South Africa faced various challenges. Social media adoption has been hindered by technological barriers, financial constraints, digital inequality, intermittent networks, and aging infrastructure. This was found through the interviews of both the students and library professionals. The students have mostly pointed toward the need for better infrastructures in university libraries. Professional development for library professionals was hampered due to a lack of funding at the University of Limpopo Libraries (ULL). The University of Antwerp Libraries were found to be better developed in terms of library infrastructure. Social media platforms provide a space where students can interact with the library and build relationships.

The same was also true for the other academic libraries in Belgium and South Africa. Using the UTAUT model and current literature, we were able to gain a better understanding of students' lived experiences and perceptions of the different factors affecting their acceptance and use of Facebook and Twitter. When it came to a lack of access to knowledge, student respondents felt disadvantaged, especially those from low-income families. Although the majority of students saw Facebook and Twitter as useful social media platforms that were easy to use, a minority were opposed to using social media and expressed reservations about the use thereof as well as privacy settings. Despite this, students at UL agreed that the library administration should set the standard for developing and enabling academic library services to students through Facebook and Twitter. Additionally, Facebook and Twitter have emerged as the University of Limpopo's preferred networking sites for the majority of this study's respondents. The findings revealed that rural university students are acquainted with Facebook and Twitter and are eager to use these sites for information sharing and to be accommodated on platforms that are appropriate for them. This novel mode of communication enables ULL to provide virtual services to students. The gist of these comments is that, if implemented properly, the use of social media for service delivery will result in increased opportunities for social engagement between library professionals and the UL community.

7.5 Findings

In study one, it was found that most university libraries in Flanders and South Africa in this study use social media. However, the findings showed that ULL was the only academic library that did not adopt social media. In South Africa, the University of Limpopo is recognised as a historically disadvantaged institution (HDI). HDIs are frequently defined by a lack of resources, a predisposition for curricula and teaching and learning methods, and a tendency for educational

and social philanthropy. As a result, study two delved more deeply into the reasons for ULL's lack of social media involvement. Thus, the primary objective of study two was to establish attitudes of the effect of non-adoption of social media and low employee morale in respect of the banning and blocking of social media during core business hours and the consequences of this digital inequality. The study found that low employee morale occurs because of the inability of employees to express themselves in a digital environment due to the university's ban on such media, leading to non-adoption of social media. This leads to a digital divide between academic libraries and ULL's employee development skills. To close the digital divide, higher education institutions must take a leadership position and make a concerted effort to prioritise infrastructure and limited resources internally to generate digitally savvy, skilled graduates capable of competing in corporate competitive contexts. Although ULL is not a social media user and has limited bandwidth and infrastructure, library professionals were eager to embrace the technology to communicate with their users. The results of study two show that university's executive management intervention is crucial to increasing bandwidth capacity and optimising data flow at ULL. Another proposal is that all social media websites be opened, and to avoid social media abuse, students might have a set amount of data loaded onto their student cards, and when that amount is consumed, the student is responsible for recharging. The suggestions could be implemented as part of a turnaround strategy.

Study three extends on the theme of social media use in university libraries, but this time how social capital is created in a digital environment. The study utilised a qualitative approach and drew upon the perceptions of both the student population as well as library professionals at the University of Antwerp in Belgium and the University of Limpopo in South Africa. This study explores the similarities and differences in respondents' perceptions of these two academic libraries. The study analysed responses from 34 individuals, including thirty students and four library professionals, using semi-structured interviews. Data on perceptions of physical and virtual library spaces were gathered to acquire a better understanding of academic libraries' social values and their contribution to social capital building. The study was guided by Bourdieu's concept of social capital (Bourdieu 1996). Bourdieu coined the term "social capital" to refer to the resources amassed through social networks. Academic libraries may leverage social media activities to engage and connect with their student populations by fostering information exchange on student-friendly platforms and developing online and virtual connections. The results suggested that to attract students in the twenty-first century, UAL demonstrated qualities similar to Bourdieu's definition of social capital. They utilised videos,

general announcements, and invites to database training, demonstrating the efficacy of building relationships and thereby contributing to social capital. Respondents at ULL agreed that an academic library should be welcoming and comfortable. Our research demonstrated several benefits of academic use of social media to increase awareness of the library's electronic resources, information literacy training, and other services, as perceived by library professionals and student respondents at ULL. However, it is obvious from the results that respondents from the University of Limpopo's student community, particularly those from extremely underprivileged backgrounds, are marginalised in terms of information access. The study concludes that social media may promote the development of social capital among students living in remote areas. Findings also revealed that students at the University of Limpopo were proficient with smartphones, but not with innovative technologies or computers. They are, nevertheless, open to learning and help close the digital divide. Libraries must guarantee that students, particularly those at the entry level, acquire the necessary skills.

Study four is based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and examines students' perceptions of social media acceptance and use in an academic library setting. The qualitative study's purpose was to acquire a better understanding of students' opinions of social media adoption, specifically Facebook and Twitter, in an academic library setting. The study examined students' perceived behavioural intentions to utilise social media using the variables defined by the UTAUT, including performance expectancy, effort expectancy, social influence, and facilitating conditions. The UTAUT model helps us to better understand the use and adoption of Facebook and Twitter by students. A sample of 30 students from two universities, one in Belgium (University of Antwerp) and one in South Africa (University of Limpopo), was chosen to acquire a better understanding of students' impressions of the academic libraries' adoption and usage of social media, specifically Facebook and Twitter. According to the data, acceptance and use of Facebook and Twitter at UAL has been a continual process with varied degrees of support. The UAL has attained a high degree of support, and Facebook and Twitter were easily accessible. At the ULL, significant hurdles to adoption and causes of non-adoption were identified as financial implications and aging infrastructure. While students, in both institutions, do think Facebook and Twitter are important communication tools in an academic library setting (performance expectancy), which is easy to use (effort expectancy), at the UAL the necessary facilitating conditions and social support are present, while these are mostly absent at the ULL. Within this overarching picture, however, it is important to point out that not all students were interested in using Facebook and Twitter in

a university library setting. Some of the UA respondents raised concerns about privacy, while some of the UL respondents felt the use of Facebook and Twitter should not be obligatory. Across all settings, there was a consistent concern that while Facebook and Twitter should be available and accessible, students should not be obliged to use them, which connects to the UTAUT model's voluntariness of use as a moderating variable.

The perception of library staff provides context for studies 1 and 2. Regardless of the justifications cited by the network manager, various discrepancies to withhold access to important technologies were discovered. Respondents felt that more channels of communication were necessary to boost the library's communication capabilities by leveraging creative technologies such as social media to overcome the digital divide created by the university's limited internet access, Wi-Fi connectivity, and remote access. The findings concluded that social media would allow librarians to connect with their students while also providing new opportunities for social networking. Since social media sites such as Facebook and Twitter are so simple to use, librarians can easily establish a social media presence and engage students in novel ways. Additionally, the findings revealed significant differences between the two academic libraries in terms of facilities and funding from the university's administration. Based on these results, it is recommended that ULL benchmark service delivery to continually develop their services and stay current with student needs.

7.5.1 Summary of the main findings

The professional development of librarians was hindered by the lack of funding at the University of Limpopo Libraries. The University of Antwerp Libraries were considered the most developed in terms of library infrastructure. The same was also true for the other academic libraries in Belgium and South Africa. Using the UTAUT model and current literature, we were able to gain a better understanding of students' lived experiences and perceptions of the different factors affecting their acceptance and use of Facebook and Twitter. When it came to a lack of access to knowledge, student respondents felt disadvantaged, especially those from low-income families. Although the majority of students saw Facebook and Twitter as useful networking tools that were easy to use, a minority were opposed to using social media and expressed reservations about privacy settings. Despite this, students at UL agree that the library administration should set the standard for developing and enabling academic library services to students through Facebook and Twitter. Additionally, Facebook and Twitter have emerged as the University of Limpopo's preferred networking sites for the majority of this study's

respondents. The findings revealed that rural university students are acquainted with Facebook and Twitter and are eager to use these sites for information sharing and to be accommodated on platforms that are appropriate for them. This novel mode of communication enables ULL to provide virtual services to students. The gist of these comments is that, if implemented properly, the use of social media for service delivery following COVID- 19 will result in increased opportunities for social engagement between library staff and the UL community.

The findings indicate that students generally viewed social media usage by academic libraries as beneficial. Academic libraries in Belgium were early adopters of social media, but due to a lack of technological advancements at the University of Limpopo, the library fell behind in terms of incorporating social media into its library service delivery. As a result, I questioned the acceptance and use of social media in academic libraries, and how students would view the acceptance and use of social media in an academic library setting.

Finally, the potential benefits of academic libraries sharing information through social media include cost and time savings, enhanced discussion and knowledge exchange, easier and faster access to information, 24/7 access to information, and the development of technical skills. The following are some of the major significant benefits of social media in academic libraries: (i) Improved communication and collaboration between academic libraries and students, allowing students to communicate with librarians through online platforms. (ii) Social media enables students to work independently, develop skills, and develop an interest in sharing information. (iii) Social media channels allow students to stay informed and engaged in real-time events, while also promoting discussions, reviews, and participation in a variety of subjects. This exchange allows a larger audience to engage outside of the physical environment by using a virtual space that is accessible globally, if not internationally, at any time. These platforms are perfect for eliciting data from students to ascertain their interests and the platform's suitability.

Academic librarians recognised the importance of social media in supporting library events, and training sessions, posting updated material, and introducing new and existing staff members to improve the library's virtual visibility. The use of smartphones, mobile phones, and tablets was stressed to illustrate to students their accessibility. Whether or not academic libraries have adopted social media, it has been discovered that library professionals use these technologies to attract students and share required information and academic activities through their private accounts. Social media sites are worth embracing, as they are used by academic libraries to

disseminate information. Facebook was selected as the preferred social media platform due to its simplicity of use, followed by Twitter though it had limited posting space. Academic libraries adopted social media because they had multiple opportunities and benefits. These advantages were discovered in smaller studies: rapid and easy access, 24-hour availability, and the freedom for students to function at their own speed, thus introducing independent learning.

As a librarian at the University of Limpopo as well as a registered student at the University of Antwerp, I observed, however, that, in 2020 and 2021, the University of Limpopo Libraries would still lag behind the University of Antwerp Libraries when it comes to modern technology and social media integration. University of Antwerp Libraries performed significantly better than University of Limpopo Libraries in the creation of physical and virtual spaces in this study than other academic libraries in South Africa, with the exception of Gauteng University Libraries, which matched academic libraries in Belgium in terms of performance. It became evident that, when the University of Limpopo Libraries (ULL) began lockdown on 27 March 2020, they were still lagging behind with innovative technologies in comparison to University of Antwerp Libraries (UAL), which was proactive and had an active Virtual Private Network (VPN) that enabled students to access databases from a distance.

The University of Limpopo Libraries' first challenge was realised during lockdown, as remote access to library resources was poor. Accessing electronic resources remotely was challenging as students required automated login details to access the library's databases. In April 2020, the University of Limpopo's systems librarian together with the ICT department ensured that all user profiles were reloaded to ensure all registered students had an active library record. This change allowed students to access the electronic resources remotely after being authenticated through the web access management (WAM) system. To further address these challenges, the University of Limpopo Libraries became part of the zero-rated university websites enabling students to access the Internet without being charged data costs. Zero-rated websites are provided by multiple service providers such as MTN, Vodacom CellC, and Telkom where these providers do not charge for data usage on certain websites. For instance, students can browse the library's databases off campus because the access method is zero-rated, meaning no data charges apply for all major South African network providers (University of Limpopo, 2023). However, students were still experiencing challenges as confirmed in a survey by the Department of Higher Education and Training (DHET), which found that students in the rural areas experienced poor network connectivity and infrastructural challenges, major challenges

which impacted on students missing deadlines for assignment submissions, intermittent internet connectivity during examination writing and the absence of electricity which meant they did not have access to technology (Department of Higher Education and Training, 2020: 37).

Our second challenge was that remote library services were virtually non-existent as online services were further exacerbated when only certain library professionals, mostly at senior management levels, were issued with 3G cards and most staff members at librarian and assistant librarian levels had no access to the Internet to enable them to work remotely and providing the necessary assistance to students. Remote access 3G cards were issued after students started to be repatriated to access the physical campus and library staff were fully repatriated effective February 2022.

To address the issue of Internet access and remote library services, the University of Limpopo arranged for zero-rated access with mobile service providers. The use of zero-rated internet data were implemented to provide access to websites and online learning platforms, enabling students to access electronic resources or the web-based virtual learning environment such as Blackboard without being charged for internet data, to avoid the challenges of internet connectivity and lack of data (Mhlanga and Ramoroka, 2021: 55). Apart from the latter, the University of Limpopo facilitated online access by providing mobile data and laptops to all students who requested it through a survey on the student portal (University of Limpopo, 2022b).

Apart from challenges experienced in the online environment, students also experienced the physical environment as not being conducive for academic learning due to shared rooms, overcrowded houses or noise pollution (p.41). Faculty members at the University of Limpopo used Blackboard (an online learning platform) to upload recorded lectures which students could watch at their own time, which led to poor online attendance (Mhlanga and Ramoroka, 2021: 49) due to poor internet connectivity and lack of data. Furthermore, students at the University of Limpopo experienced social media challenges which makes promoting or communication of important information problematic as these are accessible only after core business hours (Shai and Bopape, 2021: 10). These are significant concerns for the University of Limpopo Libraries. Hopefully, the present administration is focused on developing the IT infrastructure of the academic libraries. It can facilitate better adoption of innovative technologies in the future.

These problems were confirmed by the Department of Higher Education and Training (2020:

39) which showed that the devices (laptops, desktops or smartphones) accessed by students were outdated, slow or old and struggled with updated programmes and did not support the necessary software required in certain modules. Students also commented on their lack of skills, competencies and technical knowledge in the multimodal environment and failed to upload assignments on online platforms (p. 40).

The connection between Library 2.0, Web 2.0, Diffusion of Innovations (DOI) theory, Social Capital Theoretical Framework, and the Unified Theory of Acceptance and Use of Technology (UTAUT) is significant in understanding the adoption and diffusion of technology in libraries. The concept of Library 2.0 is rooted in the principles of Web 2.0, which emphasises user-generated content, interactivity, and collaboration. This approach encourages academic libraries to create a more participatory environment by using social media, blogs, wikis, and other Web 2.0 tools to engage with their patrons. The Diffusion of Innovations (DOI) theory explains how new ideas and technologies are adopted and diffused within a social system. Libraries can use this theory to better understand how their users adopt and use new technologies and services. Social Capital Theoretical Framework suggests that social networks and relationships have a significant impact on individuals' access to resources and information. In the context of libraries, social capital can be used to develop strong partnerships with the community, resulting in increased support and participation. Both ULL and UAL facilitate the bridging of social capital through their efforts to bring together students, faculty, staff, and community members from diverse backgrounds and provide opportunities for them to interact and collaborate. For example, social media can be used to inform users of events, workshops, and group study sessions that bring together individuals with varying skills and expertise. Furthermore, the ULL and UA Libraries contribute to bonding social capital by providing through trust and the vision of the library by making spaces and resources available to users. Bonding social capital is created through the library as place. The ULL and UAL are serving as hubs for building both bridging and bonding capital, which can promote increased collaboration, knowledge sharing, and community building among their users. The Unified Theory of Acceptance and Use of Technology (UTAUT) provides a framework for understanding how individuals perceive and adopt new technologies. Libraries can use this theory to design and implement technology-based services that meet the needs and expectations of their patrons. Together, these theories and frameworks offer a comprehensive approach to understanding and implementing Library 2.0 practices that can lead to more effective and engaging library services.

7.6 Implications of the research

A summary of the implications of the research in relation to the research objectives is presented below:

Objective 1: To establish whether social media have been adopted and how this technology is applied in the library's operations and services.

Study one has put into perspective the adoption and use of social media technologies at academic libraries in Belgium and South Africa. These technologies are not new to academic libraries but are promisingly yielding successful results and positive attitudes. Despite the positive attitudes expressed at five academic libraries, there were challenges voiced at one academic library with a non-adoption social media status for the library. From this study, I have drawn seven main conclusions based on the findings.

Three academic libraries in Belgium, CULL, UAL, FUBL and two in South Africa, GUL and CPUTL, embraced social media technologies to support and enhance library services and to facilitate liaison between the library and students. The ULL played an inactive role as a non-adopter of social media. Firstly, regardless of the scale of usage among these academic libraries, library professionals use one or more social media platforms to carry out library activities and information sharing. Secondly, the CPUTL used smartphones and 3G cards to support social media usage and possess technical skills to use innovative technologies and communicate with students using real-time technology. Thirdly, social media platforms have proved worth the use and adoption to share content and information and to establish a medium of communication that is known to students and sharing urgent information to a wider spectrum of people. Facebook and Twitter allows for sharing news, information about library exhibitions, new resources and increases virtual communication. Fourthly, social media technologies have its opportunities and benefits in academic libraries and the library profession as perceived to address and express the importance of user needs and choosing the right channels of communication to reach a target audience. However, the importance of retaining a hybrid library, having both print and electronic measures in place, were expressed to ensure all users are reached using platforms suited to them. Study one revealed that social media usage helped improve library services and increased interactions and engagement with students. The benefits associated with the adoption and use of social media in academic libraries include promoting awareness, building relationships with students, increasing library status, increasing two-way communication and

providing a forum for feedback or a question point. Clear guidelines should be put in place to ensure feedback and questions are answered within a said period. Fifthly, keeping in line with multimodal and remote teaching and learning, Facebook and Twitter are mediums of communication in the 21st century to attract followers and library users. The adoption and use of social media brings forth digital spaces that promote electronic materials, such as e-books, e-journals or articles, e-chapters of books or e-services where these can be accessed and downloaded remotely. Virtual spaces also include computers, mobile devices and access to the Internet. This study was the first of four studies of which it has informed other studies such as study three, handling both the physical and virtual spaces. Sixthly, social media like Facebook and Twitter helps library professionals to create an account, to promote library resources and services and provide platforms and market their services effectively and efficiently. Benefits for library professionals include easy sharing of information and making content easily accessible. Finally, on the other hand, although library professionals at the ULL are eager to adopt social media, Internet access and Wi-Fi connectivity remains hindrances towards the successful adoption and use of social media technologies. Therefore, it is recommended that reliable Internet connectivity and campus-wide Wi-Fi be installed, availability of 3G cards for administrators to ensure library professionals have the necessary resources in place to support social media to use smartphones or laptops anywhere at any time.

Furthermore, library professionals perceived the adoption of social media positively and expressed a need to be innovative and use technology to their advantage to communicate and promote library services and training sessions. Hence, library professionals must update their skills and competencies in Library 2.0 technologies to communicate with students, improve library service provision and ensure information and resources are communicated to students using Facebook and Twitter as preferred social media tools. I supported the idea that academic library professionals should be kept abreast of technological change to continue to be relevant and add value to library services in the ULL and other South African academic libraries. There is a consensus that the new normal has led to a paradigm shift in which academic libraries have to change or adapt their approach to remain relevant in the 21st century (Ifijeh and Yusuf, 2020; Adetunji and Oladokun, 2020 and Abubakar, 2021).

Objective 2: To identify factors that limit and hinder the effective usage of social media tools in academic libraries, specifically, the University of Limpopo Libraries.

In comparison to other university libraries in South Africa and Flanders (in this study), ULL had substantial challenges. Financial restrictions and inadequate ICT infrastructure, a lack of library and information resources, a tardy adoption of open-access resources and resistance regarding new and innovative developments. Furthermore, both ULL employees and students were prohibited from utilising social media during core business hours. Due to internal environmental issues such as network restrictions and insufficient monitoring tools for Facebook and Twitter use, social media were only accessible after hours. Students perceived social media as important for their studies, but limitations were voiced. One student agreed: *“I find social media easy to use as it took me three hours to familiarise myself with Twitter. On the other hand, Facebook was so easy and I created my profile. The library should adopt social media [sic] and share information with students”* (ULS#18). Even though objective two is linked to ULL, CPUTL respondents revealed limitations such as data and connectivity problems. In some cases, 3G cards and personal data on smartphones were used when technology failed.

Social media adoption at the University of Limpopo Libraries, is lacking among library staff. Employees of the library are not allowed to use social media during work hours, according to UL guidelines. The Marketing and Communication Division is approved to use social media, and UL Libraries must request posts for approval to the Marketing and Communication Division before they can be published. However, the consensus at the library was that the library should have control of its own social media platforms.

Objective 3: To investigate whether this initiative is used within the library services to encourage user participation.

The objective addresses user participation and the use of social media, engagement strategies on social media to build user participation in library services and liaison to engage with users visiting the physical library or virtual library. The objective is linked to study one, study two but also strongly expressed in study three where social media platforms form a two-way interaction between the library and students enabling libraries to submit content through Facebook and Twitter and have users respond simultaneously. Two-way communication is viewed as providing an interactive approach on which this objective is applied and makes a difference to how academic libraries use social media to generate content and engage with students on virtual platforms. Understanding the needs of students and employee development,

social media plays an important role in student's daily life and are perceived as easier and more convenient to access and provide information and to connect with library professionals as well as being beneficial to their academic learning environment. Building user participation, the adopters of social media used these platforms to communicate with students and strengthen relationships by following a trend of a newly proposed concept of participatory library and being early adopters of an innovative method of communication.

Objective 4: To investigate whether social media is beneficial in this constantly changing environment.

Social media platforms enable additional channels for communication and information sharing, resulting in a user experience adapted to the demands of the student population. While many participating libraries in this study had profiles on both Facebook and Twitter, it is perceived that Facebook will continue to play an important role in academic libraries. The use of visual content, short messaging, and video clips allows students to access relevant information and engage with academic libraries by facilitating the process of obtaining information while also giving a quicker response or turnaround time. The implications of the research point toward the fact that social media can be an important medium for reaching out to students and other target populations. The results have focused on the need for better interactions between the libraries and students in view of the changing educational situation. If a pandemic occurs in the future, libraries can provide more support to students through social media. Students were also found to be positively opinionated about the usage of social media for communication in academic libraries.

Objective 5: To investigate to what extent the student population would welcome the use of social media for study purposes.

This research provided insight into the social media use and preferences of students at both institutions. Students at the UA had conflicting thoughts regarding the adoption and use of social media for academic purposes. Students object to the library's use of non-professional websites and social media platforms to communicate library-related information. These students argued that academic libraries should project a professional image. They regarded social media as a personal tool for interacting with friends, rather than the university library. Despite a faster mode of communication, few UA students embraced social media and view

academic library communication as on par with other professional communication methods. UL respondents, on the other hand, welcomed innovative modes of communication, and library professionals recognised the value of integrating social media to prevent libraries from being stagnant and archaic. It should also be noted that using personal social media accounts has negative implications as it reaches fewer students. UL students agree that the library administration should set the standard for developing and delivering academic library services to students through social media channels such as Facebook and Twitter.

Objective 6: To establish the use of social media platforms by academic libraries as information-sharing tools.

The UL Libraries need guidance to introduce the use of social media for communications, interactions, and sharing information. The library may begin by defining social media channels for service delivery. The increasing importance of social media among students was found to be a major motivator for implementing library communications. However, the findings suggest that a seamless transition to social media incorporation in the UL libraries is only feasible with efficient Internet connectivity. The requirement for having specific social media policies for academic libraries was stated in the research. Findings further suggest that the usage of social media as information-sharing tools can help in optimising library functions in the future.

Objective 7: To ascertain the perceptions of library professionals concerning the use of social media in the provision of library and information services.

While library professionals at ULL seek to adopt social media, other academic libraries have seen significant shifts and opportunities. Respondents stated that there is a need to provide new channels of communication to supplement the library's communication tools, such as social media, to bridge the digital divide. Respondents perceived themselves to be marginalised and incapable of carrying out daily chores. Respondents expressed dissatisfaction with the lack of social media adoption, stating that they are demotivated since their professional development is inhibited by insufficient resources, inadequate infrastructure, and a lack of trust, all of which contribute to poor work performance.

Respondents were unanimous in their belief that social media could be helpful to the library and lead to positive employee engagement and retention. Despite their lack of enthusiasm, respondents are optimistic that social media will be widely embraced and openly available one

day. The key is to recognise best practices and work on developing a collaboration tool that is appropriate for university libraries and student populations.

7.7 Recommendations for UL Libraries: Adoption of social media

This research identified the following recommendations to assist the University of Limpopo Libraries and University of Antwerp Libraries in making a seamless transition to social media use.

The research on the use of Facebook and Twitter within the University of Limpopo's academic libraries are both relative and new research areas. Therefore, these contributions should be considered as beneficial to future communications to the university community and career advancement for library professionals. While the current research focused on existing knowledge and gaps which is a stepping stone for the ULL in pursuing the adoption of Facebook and Twitter. Among various topics mentioned in this study, the primary one is based on conducting a student and staff survey to elicit feedback on the library's relevance to build a social media presence and submit the results to management. As a form of self-evaluation and review the ULL can view the results of the library survey and gather opinions of itself and type of services required by currently registered students and affiliates of the university as an ongoing process to remain current and relevant with library services and clients' needs, which place the library in a better position to respond to their needs by pushing its events, news and services to a virtual space thereby increasing communication, liaison and collaboration and marketing the library widely and portraying the library in a modern technological trend environment. Library websites should be updated regularly as it is the main entry point to access the library's social media platforms. Furthermore, in offering library and information services, the ULL' use of social media should highlight their objectives to promote library services, workshops and events offered by the library. Since the beginning of lockdown in March 2020, library professionals' job descriptions and roles have changed providing virtual and contact services advancing employment and career development herewith highlighting the importance of staying relevant. Considering this, and closing the gap, recruitment and selection of seeking a knowledgeable social media librarian to use and maintain these platforms on a regular basis and draft policies and procedures governing the posting of content should take priority for future developments. Policies allowing for the use of social media networking sites during work hours and monitoring personal social media posting. The adoption and use of social media by the ULL will require management consent to allow the ULL to manage its own postings rather than

depending on the Marketing and Communication Division.

To improve the adaptation of social media at the University of Antwerp Libraries, there are several recommendations that could be implemented. Firstly, it is important to identify and understand the target audience and their preferred social media platforms. This information can be gathered through surveys and feedback forms. Once the preferred platforms are identified, the libraries should establish a consistent and engaging social media presence on these platforms by regularly posting relevant content, responding to comments and messages, and actively engaging with the audience. It is also recommended to collaborate with other university departments and student organisations to increase the reach and visibility of library social media accounts. Furthermore, the libraries could consider implementing social media campaigns and contests to encourage participation and increase engagement. Finally, it is important to regularly assess the effectiveness of social media strategies and make necessary adjustments based on the data gathered. By following these recommendations, the University of Antwerp Libraries can improve their adaptation of social media and effectively engage with their target audience.

In relation to staff training, it is recommended that library staff members be better trained on how to use social media for sharing library information or other forms of communication. Additionally, university libraries should have dedicated teams or administrators responsible for social media communications.

7.8 Limitations of the study

The limitations of this research were exacerbated by the COVID-19 pandemic. Moreover, the study highlighted limitations regarding the chosen methodology, specifically the qualitative approach that employed a holistic problem-solving approach. The fourth study, primarily employed a quantitative approach, in order to examine the constructs developed by Venkatesh et al. (2003) but my supervisors and I concluded that the qualitative approach was the best option as it facilitated two-way communication, interaction, and in-depth discussions on the topics under investigation. This decision also clarified the challenges encountered in inviting student respondents through electronic mail, which would have resulted in a low response rate and made it difficult to continue with a quantitative approach.

A larger, and more representative sample would be needed to determine the relative value of the UTAUT constructs, which were only observed provisionally in the small study sample.

The cultural differences between the two countries present a major limitation. The cultural aspects of South Africa and Belgium must be taken into consideration when comparing these two countries, as cultural norms, values, and practices have a significant impact on the results of the study. These differences may be a function of attitudes towards education and the role of education in society. In addition, the lack of representation of universities in the study can also be a limitation. The study's results may be influenced by the differences in structures, resources, and cultures between the two universities. The field of study pursued by the majority of students can also have an impact on the research findings. The research findings may not be comparable if, for example, the majority of students in one country are pursuing social sciences or humanities while the majority of students in the other country are pursuing science or engineering. Students' experiences, career outcomes, and perspectives on education can be significantly impacted by the differences in their fields of study. In acknowledging these limitations, we can ensure that their findings are more accurate, reliable and applicable to their respective contexts.

The identification of rural and urban areas as potential barriers is an important aspect of this study. The alignment of these two concepts, however, can pose a significant challenge, especially when working with a limited sample size. The characteristics and experiences of students from urban and rural areas can vary significantly, which may affect the results of the study. Additionally, because the study is conducted at more than one university, the sample size is often limited. Therefore, it can be difficult to obtain actual concepts related to the study, which can further limit its generalisability. The small sample size of the universities in this study makes it difficult to draw general conclusions about the entire student population, which is approximately 22,000 students. The results of this study should therefore be interpreted in light of the limitations of the sample size. Although the research may provide valuable insight into student experiences at the universities surveyed, it may not be representative of the wider student population. Therefore, it would be prudent to exercise caution when generalising the results of this study to other contexts.

7.9 Suggestions for further research

We felt that training is an essential aspect of developing a social media presence because it ensures that staff members are aware of the social media tool's processes and features, as well as that they are comfortable using it. Focus group interviews with students should provide information about their social media end-user experience. Students' participation would also

contribute to the creation of content for the library's social media pages. As a result, it will be easier to adapt posts to the needs and interests of students. Lastly, creating clear guidelines for the use of social media in service delivery would be an essential tool to guide social media administrators.

Due to the study's narrow emphasis on student interactions, additional research is necessary to better understand the impact of financial and infrastructural constraints on Facebook and Twitter adoption in academic libraries, as well as librarians' and administrators' perspectives. Subsequently, larger, and more representative samples would be needed to determine the value of the UTAUT constructs, which were only observed provisionally in the small study sample. This also enables researchers to investigate the function of moderating variables such as age, gender, experience, and voluntariness of usage, all of which provided some indications but no conclusions. In terms of the types of social media available and usage by academic libraries, the study focused on Facebook and Twitter. The reasons for studying these popular social media platforms as library professionals found it suitable to communicate with students and share library information on platforms, which they have accepted and are familiar with. This research highlighted some limitations about the student population at ULL. The sample size was small to generalise the findings. Additionally, we discovered that technological difficulties, such as inactive email addresses, sporadic internet connectivity, and poor response, obstructed efforts to recruit a more representative sample of students.

At the University of Antwerp Libraries, administrators in charge of the Facebook and Twitter platforms are advised to create a social media policy and appoint a small team of administrators to increase the pool of content creators. Before beginning their duties, the newly appointed administrators should receive formal training to become familiar with the social media platforms. Refresher training should also be provided periodically to keep up with any changes or new platforms. It's important to note that this doesn't necessarily mean adopting innovative platforms regularly, but rather considering the needs of the students and finding the best technology for their specific needs. This can vary between different academic libraries. Although the University of Antwerp Libraries provide conducive learning spaces and areas for small group discussions, there is always room for improvement. For example, book and shelving space.

Furthermore, recommendations for additional research are necessary to better understand the

impact of financial and infrastructural constraints on the adoption of Facebook and Twitter among academic libraries, as well as librarians' and administrators' perspectives. This also enables researchers to investigate the function of moderating variables such as age, gender, experience, and voluntariness of usage. The claim that younger people are avoiding Facebook in favour of newer social media platforms has recently become a topic of discussion. It is thus important to include social media preferences of Generation Y in future research since this trend raises important questions about how academic libraries should approach new social media platforms and whether they should try to keep up with every new technology. In the first instance, it is important to recognise that social media platforms play a significant role in how younger generations communicate and interact with one another. Therefore, academic libraries should be aware of these trends and adapt their strategies accordingly. The goal should be to explore and utilise new social media platforms that are aligned with their goals and values rather than adopting every new platform that appears.

7.10 Research contributions

The study has contributed to the research field comprising all information in regard to social media usage among university libraries. The findings of the study can help in developing better research on social media implementation, not just in academic libraries but also as a communication and information sharing medium for other university departments. The study can renew interest in the usage of social media in the academic field.

7.11 Conclusion

During the COVID-19 pandemic and as the global lockdown progressed, social media usage patterns became increasingly apparent. Academic libraries used social media more frequently to communicate with their patrons (Decker, 2021; Gmiterek, 2021; Neog, 2020). I observed how the COVID-19 pandemic affected social media activity at academic libraries while preparing the thesis, even though the data was gathered prior to 2020. In response to the COVID-19 pandemic and lockdown, ULL adopted multimodal teaching and learning, requiring access to websites, online classrooms and online assignment submissions, electronic books, electronic journal articles, and virtual library services. Though ULL academic faculties have been successful in switching to multimodal learning, the ULL libraries have faced obstacles in creating a social media presence to interact with their students. Despite efforts by ULL Libraries to integrate social media into their library services during COVID-19 and post-COVID, as well as maintain a social media presence, neither of these goals has been achieved. However, after

COVID-19 and now that the University of Limpopo Libraries have transitioned by adopting digital environments, virtual training sessions, remote collaboration and service delivery, and creating a participatory environment by using social media and other digital platforms to engage with students, it is undoubtedly that library professionals will want to go back to a stagnant, archaic method of working. Students too have familiarised themselves with the new hybrid teaching, learning and working environment and the University's executive management encourages the changing environment.

Contrary to the UA Libraries, which were early adopters of Facebook and Twitter, providing a critical platform for disseminating information to a broader audience, the ULL Libraries cannot do the same. It is due to the fact that ULL Libraries are not responsible for social media platforms such as Facebook and Twitter, which are under the control of the university's Marketing and Communication Division. Library personnel are familiar with these platforms and submit Facebook and Twitter publication requests when required. Additionally, ULL is hindered by an inadequate ICT infrastructure that prevents them from effectively deploying and adopting social media. It has been determined that the most significant obstacle is institutional rules, which prohibit ULL library professionals from using social media sites during core business hours. The library is required to distribute communications through the Marketing and Communication Division. Several impediments, including technological limitations, budgetary constraints, digital inequities, inconsistent networks, and outdated infrastructure have also prevented the widespread adoption of social media. Additionally, management activity contributes significantly to ULL's bandwidth capacity expansion and data flow optimisation. A lack of ICT infrastructure was also perceived at CPUTL, a university library in South Africa included in study one. A number of data and connectivity constraints were identified by study one from respondents in response to the study conducted with CPUTL. While an urban university library in the Global North has a high level of digital connectivity, the ULL, which is a rural campus library in the Global South, lacks that capability, especially in terms of the enabling conditions for the use of social media. Additionally, staff and students share remarkably similar perspectives about the deployment of sufficient infrastructure to facilitate the integration of social media into the communications system. Despite these challenges, ULL and students assessed the use of social media in academic libraries favourably.

The study found that library professionals and students were willing and ready to adopt social media to support the need for innovative communication and service delivery. The results are

an indication that the adoption of Facebook and Twitter at the ULL would be embraced since the majority of the respondents supported the adoption and were already familiar with and using these platforms. Academic libraries should support Facebook and Twitter and mobilise library professionals to allow a proactive and participatory role in creating social media content. Social media skills for academic libraries should be enhanced and regularly upgraded to ensure they are keeping abreast of new developments. The ULL should design annual surveys to guide them on the needs of students and changes that could be implemented to improve library services which can be foreseen on the library's five-year strategic forecasting. It is imperative that the library has a social media policy to guide the use of social media.

As for the University of Limpopo, the reintegration plans of students were in place to ensure students and staff were repatriated which used a phased-in approach. As all services are not yet fully operational, at the time of this research, students are expected to use their own laptops or mobile devices to access the library's virtual services. In the new dispensation, remote learning is a reality for UL students and although students receive data for academic use on a monthly basis, poor internet connectivity in the rural areas still exists. This indicates a catch-22 situation where students are not able to use the library's computer laboratories nor access the Internet remotely if they are based in the rural areas with poor connectivity. Therefore, it is imperative that ULL address these challenges to ensure all students have the same access and connectivity to the library's virtual platforms and services.

As a concluding statement for the University of Limpopo Libraries, following the completion of this study, I have developed a Facebook page for the ULL for which proper protocol will be followed to ensure its approval by Executive Management. As the page is not yet approved and should be marketed to gain followers, the ULL continues to solicit assistance from the Marketing and Communication Division in order to post library content. Furthermore, the ULL will continue to use SMS notifications to communicate urgent information to students. The topic of bandwidth and intermittent internet connectivity has been resolved as students receive 30 gigabytes of data per month and all library professionals are equipped with a 3G card of 10 gigabytes to assist with remote working. So too the University of Limpopo is at the point of upgrading dated infrastructure, university wide, of which the University of Limpopo Library at the Turfloop Campus will be extended which commenced in 2023.

Overall, Facebook and Twitter can prove to be better virtual liaison platforms to distribute

library related information to students and encourage users to make use of the library. The University of Limpopo Libraries' Facebook page's Uniform Resource Locator or URL as commonly known can be found at <https://www.facebook.com/ULLibraries>.



Figure 3a: University of Limpopo Libraries' Facebook page

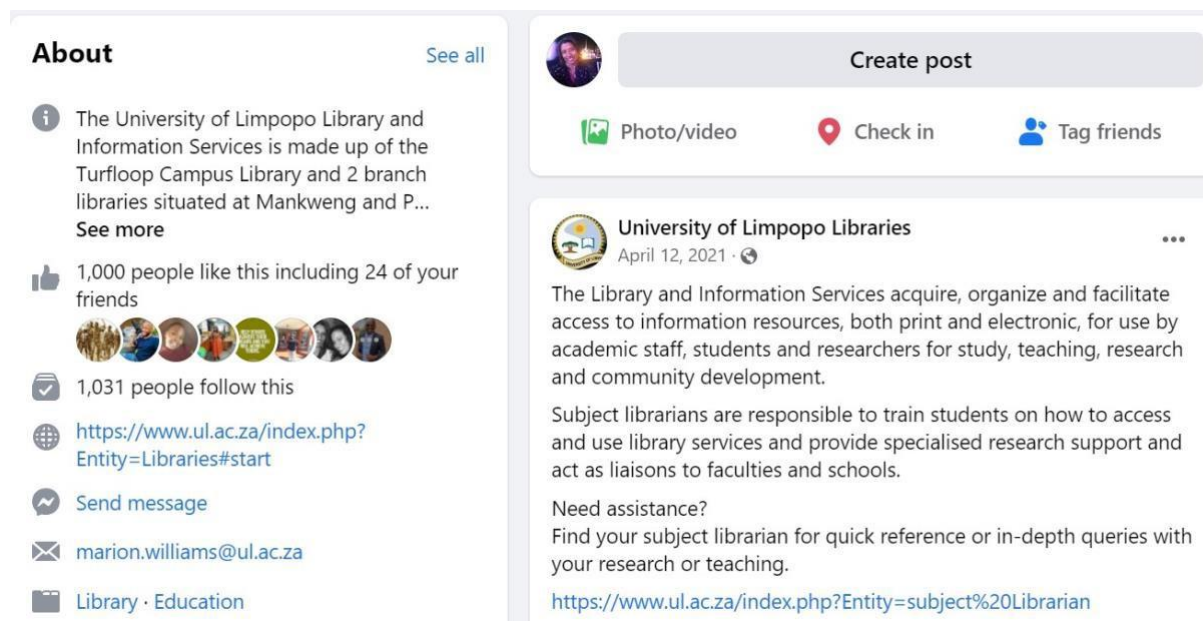


Figure 3b: University of Limpopo Libraries' Facebook page

Since creating the page in October 2020, I have added operational hours, information on an open-access webinar, a listing of subject librarians, amnesty announcement and extended operating hours. Currently, the page has 1,000 likes and 1031 followers, and students are providing positive feedback and asking questions.

To conclude this study, it can be said that social media can play a significant role in determining library communications in the near future especially at the University of Limpopo Libraries. The adoption and use of Facebook and Twitter by academic libraries seems to be the driving force of social media usage. It is therefore imperative that academic libraries utilise the power of these platforms for library service promotion, outreach as well as considering students' preferences and recognising the social media platforms that are used among the student population.

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ABSTRACT

Academic libraries have become hubs of technology, changing the responsibilities of academic libraries. In the Global North, academic libraries have taken the lead in adopting various social media platforms, to enhance service delivery and dissemination of information to students. Similar adoption models are seen with academic libraries in the Global South, but not all are adopting these innovative methods of communication. With these technological advancements, academic libraries have an obligation towards students to increase their level of high-tech preparedness and skills development. The problem prompting this research was the lack of technological advancements and lack of infrastructure at a university situated in the rural outskirts of South Africa, which led to a comparative study with other academic libraries in Belgium and South Africa. In light of the uneven distribution of resources between academic libraries in Belgium and South Africa, the study examined how academic libraries might be considered as places to create social capital. It is against this backdrop that this study researched the perceptions of library professionals and students at academic libraries in Belgium and South Africa to investigate the adoption and use of social media, in particular, Facebook and Twitter as service delivery tools in academic libraries. Academic libraries play a fundamental role to provide innovative library services to students and faculty members in support of teaching, learning and research. Therefore, the need for library services to adapt to 21st-century technologies is crucial to avoid stagnation. The main research question is: *“How are the adoption and use of social media in academic libraries applied in the library’s operations and services and how do students perceive the acceptance and use of social media in an academic library setting?”* The study was carried out in two phases and in phase one the participants were purposefully selected based on differences in terms of geographic region. The population included three academic libraries in South Africa and three in Belgium comprising sixteen library professionals, eight from Flanders and eight from South Africa.

Aiming for a similar sample per university for comparability, the second phase of the research used interview data from fifteen student respondents from the University of Antwerp in Belgium and fifteen from the University of Limpopo in South Africa. As I was residing in Belgium during the second phase of data collection, face-to-face and Skype interviews were conducted with respondents. Interviews were used to ascertain information pertaining to students’ lived experiences and perceptions of social media for scholarly usage and information dissemination.

This thesis is a collection of papers focusing on the adoption and use of social networking platforms at higher education institutions. This qualitative study examined the adoption and non-adoption of social media and the utilisation of such innovative technologies in academic libraries. The study examined similarities, differences, challenges and lack of technological advancement and revealed gaps in technological needs, the skills some librarians have with innovative technologies, students' perceptions of technology adoption and challenges experienced. The study emphasised the importance of staying current with emerging technologies to embrace library services and to facilitate liaison between the library and students. Despite the buzz about the adoption of social media, the University of Limpopo Libraries was still faced with many challenges. Factors that hindered the adoption of social media were technological challenges, financial constraints, digital inequality, intermittent network and aging infrastructure. Library professionals felt demotivated as their professional growth was hampered by limited resources. Similarly, in terms of lack of access to information student respondents felt that they were marginalised, especially those from highly disadvantaged backgrounds. While the majority of students perceived Facebook and Twitter as important communication tools, which are easy to use, the minority were not supportive of the adoption of social media in a library setting and some expressed concern about privacy.

DUTCH-LANGUAGE ABSTRACT

Academische bibliotheken zijn knooppunten van technologie geworden, waardoor de verantwoordelijkheden van academische bibliotheken zijn veranderd. In het Globale Noorden hebben academische bibliotheken het voortouw genomen bij het adopteren van verschillende sociale-mediaplatforms om de dienstverlening en de verspreiding van informatie aan studenten te verbeteren. Soortgelijke adoptiemodellen worden gezien bij academische bibliotheken in het Zuiden, maar niet alle nemen deze innovatieve communicatiemethoden over. Met deze technologische vooruitgang hebben academische bibliotheken de verplichting jegens studenten om hun niveau van technologische paraatheid en ontwikkeling van vaardigheden te verhogen. Het probleem dat aan dit onderzoek ten grondslag lag, was het gebrek aan technologische vooruitgang en het gebrek aan infrastructuur aan een landelijke universiteit in Zuid-Afrika, wat leidde tot een vergelijkende studie met andere academische bibliotheken in België en Zuid-Afrika. In het licht van de ongelijke verdeling van middelen tussen academische bibliotheken in België en Zuid-Afrika, onderzocht de studie hoe academische bibliotheken kunnen worden beschouwd als plaatsen om sociaal kapitaal te creëren. Het is tegen deze achtergrond dat deze studie de percepties van bibliotheekprofessionals en studenten van academische bibliotheken in België en Zuid-Afrika onderzocht om de adoptie en het gebruik van sociale media, in het bijzonder Facebook en Twitter, als hulpmiddelen voor dienstverlening in academische bibliotheken te onderzoeken. Wetenschappelijke bibliotheken spelen een fundamentele rol bij het bieden van innovatieve bibliotheekdiensten aan studenten en docenten ter ondersteuning van onderwijs, leren en onderzoek. Daarom is het van cruciaal belang dat bibliotheekdiensten zich aanpassen aan de technologieën van de 21ste eeuw om stagnatie te voorkomen. De centrale onderzoeksvraag is: *"Hoe worden de adoptie en het gebruik van sociale media in wetenschappelijke bibliotheken toegepast in de activiteiten en diensten van de bibliotheek en hoe ervaren studenten de acceptatie en het gebruik van sociale media in een wetenschappelijke bibliotheekomgeving?"* Het onderzoek is uitgevoerd in twee fasen en in fase één zijn de deelnemers doelbewust geselecteerd op basis van verschillen in geografische regio. De populatie omvatte drie academische bibliotheken in Zuid-Afrika en drie in België, bestaande uit zestien bibliotheekprofessionals, acht uit Vlaanderen en acht uit Zuid-Afrika.

Vanuit een streven naar een vergelijkbare steekproef per universiteit, gebruikte de tweede fase van het onderzoek interviewgegevens van vijftien studenten van de Universiteit van Antwerpen in België en vijftien van de Universiteit van Limpopo in Zuid-Afrika. Omdat ik tijdens de tweede fase van de gegevensverzameling in België verbleef, werden face-to-face- en Skype-

interviews met respondenten gehouden. Interviews werden gebruikt om informatie te verzamelen met betrekking tot de ervaringen van studenten en percepties van sociale media voor wetenschappelijk gebruik en informatieverbreiding.

Dit proefschrift is een verzameling artikelen omtrent de adoptie en het gebruik van sociale netwerkplatforms bij instellingen voor hoger onderwijs. Deze kwalitatieve studie onderzocht de adoptie en niet-adoptie van sociale media en het gebruik van dergelijke innovatieve technologieën in academische bibliotheken. De studie onderzocht overeenkomsten, verschillen, uitdagingen en gebrek aan technologische vooruitgang en onthulde hiaten in technologische behoeften, de vaardigheden die sommige bibliothecarissen hebben met innovatieve technologieën, de percepties van studenten over de adoptie van technologie en de uitdagingen die ze ervaren. Het onderzoek benadrukte hoe belangrijk het is om op de hoogte te blijven van opkomende technologieën om bibliotheekdiensten te omarmen en om de verbinding tussen de bibliotheek en studenten te vergemakkelijken. Ondanks het vele praten over de adoptie van sociale media, stond de University of Limpopo Libraries nog steeds voor veel uitdagingen. Factoren die de acceptatie van sociale media belemmerden waren technologische uitdagingen, financiële beperkingen, digitale ongelijkheid, een onstabiel netwerk en verouderde infrastructuur. Bibliotheekprofessionals voelden zich gedemotiveerd omdat hun professionele groei werd belemmerd door beperkte middelen. Ook studenten voelden zich gemarginaliseerd door het gebrek aan toegang tot informatie, vooral degenen uit zeer kansarme milieus. Hoewel de meerderheid van de studenten Facebook en Twitter beschouwde als belangrijke communicatiemiddelen, die gemakkelijk te gebruiken zijn, was een minderheid geen voorstander van de invoering van sociale media in een bibliotheekomgeving, waarbij sommigen hun bezorgdheid over privacy uitten.

AUTHOR CONTRIBUTIONS

Chapter 3: Study 1

The adoption of Web 2.0 technologies in academic libraries: A comparative exploration.

Marion Lucille Williams: Single author (conception of the study, data collection, data analysis and interpretation, writing of the research paper).

Supervisor's contribution:

Alexander Dhoest: (conception of the study and editing of the research paper).

Ian Peter Saunderson: (editing of the research paper).

Chapter 4: Study 2

Social media, diffusion of innovations, morale and digital inequality: A case study at the University of Limpopo Libraries, South Africa.

Marion Lucille Williams: Main author (conception of the study, data collection, data analysis and interpretation, writing of the research paper).

Alexander Dhoest: First co-author (conception of the study and editing of the research paper).

Ian Peter Saunderson: Second co-author (editing of the research paper).

Chapter 5: Study 3

Library as place: evaluating physical and virtual spaces: a case study of two academic libraries.

Marion Lucille Williams: Main author (conception of the study, data collection, data analysis and interpretation, writing of the research paper).

Ian Peter Saunderson: First co-author (editing of the research paper).

Alexander Dhoest: Second co-author (conception of the study and editing of the research paper).

Chapter 6: Study 4

Students' perceptions of the adoption and use of social media in academic libraries: A UTAUT Study.

Marion Lucille Williams: Main author (conception of the study, data collection, data analysis and interpretation, writing of the research paper).

Ian Peter Saunderson: First co-author (editing of the research paper).

Alexander Dhoest: Second co-author (conception of the study and editing of the research paper).

Appendix 1: Interview questions: Adopters



Introduction

Thank you for signing the consent form. As part of the research proceedings and as this is a recorded interview, I would like you to state your name and your job title and in which section you work. The interview will follow an open ended, semi-structured process. Your participation in this research is voluntary. You can choose to have your name recorded in my research or remain anonymous, however, all data collected will be protected and stored securely. I am mentioning this so that we agree that your name will or will not be quoted in the analyses of the data. If there is any terminology that is not clear, please advise, and I will be happy to explain it in greater detail.

Part 1: Background

1. Could you tell me about your job responsibilities?
2. How did you decide on this profession?
3. How long have you worked in the library?
4. Do you have any technological issues that could hinder your work output?
5. Do you have the necessary resources to use the system that is in place? (Facilitating Conditions)

Part 2a: Personal capacity and use of social media

6. In your personal capacity, are you an active user of Social Networking Sites and which sites do you have a profile on? (Probe: Facebook, Twitter, LinkedIn)
7. What type of information do you share and how often do you share information? (Adventures, photos etc.)

Part 2b: Work capacity and use of social media / Web 2.0 and Library 2.0 tools

8. Do you feel pressurised by the media and the buzz around social media to keep abreast with changing technology?
9. Is the library using Social Networking Sites to engage with users?
10. Did the initiative to create a social networking page derive from senior management? (Social influence)
11. Which types of Web 2.0 applications are used by the library? (Probe: i.e. Facebook, Twitter, LinkedIn, blogs, Flickr, Delicious, My Space, Wikis)
 - i. Other ... it is also possible for the library to not have a profile.
12. How many satellite campus libraries does the library have, if any?
13. Is managing the library's Social Networking Site(s) your primary function or do you do this voluntarily? (Voluntariness of use).
 - i. Is the account centrally managed?
14. How much of your working hours is spent on Library 2.0 to manage the site(s)?
 - i. How do you manage the (extra) workload?
15. What type of information is communicated on these sites? (Probe: Library news, library services, new acquisitions, operational hours, reviews, pictures, upcoming events, other, please specify)
16. How do you access your Social Networking Sites ... do you use a smartphone, computer or any other electronic device?
17. How do you advertise your social media sites in order to attract followers? (Library's webpage, orientation, posters, word of mouth, bibliographic instruction sessions, training sessions).
18. Do you think that Web 2.0 tools are important for marketing and promoting library services?
19. Do you find that social media is an effective tool for sharing information and reaching students?
20. Regarding two-way communication, have you seen an increase in patron participation and feedback?

Part 3: Staffing issues

1. Are all the staff aware of the Social Networking Sites and do they provide input?
2. What are the expertise or experience required to manage the library's social media sites?
3. Is training offered to those who do not have the necessary skills?

4. Have you received any training in the use of social media (Library 2.0) tools?
5. Do you find the use of social media useful in your job? (Performance Expectancy)
6. Was it easy to familiarise yourself with the social media tools? (Effort Expectancy)
7. Do you receive support from senior management in the use of the system? (Social Influence)
8. Do you intend to use social media or continue with the practice in the following months? (Behavioural Intention)

Part 4: Budgeting, limitations and collaboration between (ICT) and the library

9. Which department within the university's structure is responsible for the technological flow of data? How is ICT involved with the Library and the technological flow of data?
10. What are the limitations or challenges that you face regarding social media on the work front? (Infrastructure, bandwidth, Wi-Fi access, equipment, staff, budgeting)
11. Does the university have a policy on social media?
12. Does the library have its own policy or guidelines on social media or do you follow the university's policy?

Part 5: General

1. Any further comments?

Thank you for sparing time off your busy schedule to participate in this interview.

Appendix 2: Interview questions: Non-adopter



Introduction

Thank you for signing the consent form. As part of the research proceedings and as this is a recorded interview, I would like you to state your name and your job title and in which section you work. The interview will follow an open ended, semi-structured process. Your participation in this research is voluntary. You can choose to have your name recorded in my research or remain anonymous, however, all data collected will be protected and stored securely. I am mentioning this so that we agree that your name will or will not be quoted in the analyses of the data. If there is any terminology that is not clear, please advise, and I will be happy to explain it in greater detail.

Part 1: Background

1. Could you tell me about your job responsibilities?
2. How did you decide on this profession?
3. How long have you worked in the library?
4. Do you have any technological issues that could hinder your work output?
5. Do you have the necessary resources to use the system that is in place? (Facilitating Conditions)

Part 2: Personal capacity and use of social media

6. In your personal capacity, are you an active user of Social Networking Sites and which sites do you have a profile on? (Probe: Facebook, Twitter, LinkedIn)
7. What type of information do you share?
 - a. and how often do you share information? (Adventures, photos etc.)
8. Which social media platforms do you use?

Part 2a: Work capacity and use of social media / Web 2.0 and Library 2.0 tools

9. Do you feel pressurised by the media and the buzz around social media to keep abreast with changing technology?
10. Is the library using Social Networking Sites to engage with users?
11. Do you think that this is an initiative that should come from senior management? (Social influence)
12. If your library should introduce social media, what types of Web 2.0 applications will you use? (Probe: i.e. Facebook, Twitter, LinkedIn, blogs, Flickr, Delicious, My Space, Wikis)
 - a. Other ... it is also possible for the library to not have a profile.
13. How many satellite campus libraries does the library have, if any?
 - a. If introduced as mentioned earlier, will this be managed centrally? Is the account centrally managed?
14. Do you think it will be a voluntary function or a primary / sole responsibility to manage social media? (Voluntariness of use).
15. You have mentioned LIASA, how much of your working hours is spent on Library 2.0 to manage the site(s)?
 - a. How do you manage the (extra) workload?
16. What type of information do you envisage will be communicated on these sites? (Probe: Library news, library services, new acquisitions, operational hours, reviews, pictures, upcoming events, other, please specify)
17. How do you access your Social Networking Sites ... do you use a smartphone, computer or any other electronic device?
18. How would you advertise your social media sites in order to attract followers? (Library's webpage, orientation, posters, business cards, email signage, word of mouth, bibliographic instruction sessions, training sessions).
19. Do you think that Web 2.0 tools are important for marketing and promoting library services?
20. Do you find that social media is an effective tool for sharing information and reaching students?
21. Do you think that social media will increase two-way communication and patron participation and feedback?

Part 3: Staffing issues

22. Are all the staff aware of the Social Networking Sites and do they provide input?
23. What are the expertise or experience required to manage the library's social media sites?
24. Will training be offered to those who do not have the necessary skills?
25. Have you received any training in the use of social media (Library 2.0) tools?
26. Do you find the use of social media useful in your job? (Performance Expectancy)
27. Was it easy to familiarise yourself with the social media tools? (Effort Expectancy)
28. If implemented, would you receive support from senior management in the use of the system? (Social Influence)
29. Do you intend to use social media in the following months? (Behavioural Intention)

Part 4: Budgeting, limitations and collaboration between (ICT) and the library

30. Which department within the university's structure is responsible for the technological flow of data? How is ICT involved with the Library and the technological flow of data?
31. What are the limitations or challenges that you face regarding social media on the work front? (Infrastructure, bandwidth, Wi-Fi access, equipment, staff, budgeting)
32. Does the university have a policy on social media?
33. Does the library have its own policy or guidelines on social media or do you follow the university's policy?
34. In connection with the University's social media account ...
35. University of Limpopo Library only: What would you consider as a main reason for not having a social networking account for your library?
36. If not mentioned: University of Limpopo Library only: Access to social media is not accessible during core office hours and can only be accessed on campus from 16:00 to 08:00. Is this still the case?
37. UL: What do you think about having a 3G card should you wish to implement SM in the library?
38. UL: Will the 3G card not be a duplicate cost on the budget when there is bandwidth available?

Part 5: General

39. Any further comments?

Thank you for sparing time off your busy schedule to participate in this interview.

Appendix 3: Interview guide: University of Antwerp (Students)



INTERVIEW PROTOCOL AND QUESTIONS

The pre-identified open-ended questions serve as a basis to prompt discussion with the opportunity to pursue points of particular interest that may arise during the interview and to use probing questions to further the discussion. The set of questions are guidelines and serve as a semi-structured interview even if it means not following the set of questions in chronological order.

Demographic information

1. What were your upbringing and living conditions like? Was it a stable environment?
2. What type of settlement did you live in (city, urban, settlement, rural village, other)?
What in your opinion were the main challenges you faced in your community? If so, have you managed to overcome these challenges?
3. Was your high school education, with or without disruptions? Was your school situated in an urban or rural settlement? Other?
 - a. Did you receive computer training?
4. How many people are currently living in the household?
5. What is the highest level of education in your household? How many members are employed? Approximately, what is your household's monthly income?
6. Who pays for your tertiary education?
7. Do you have a desktop computer and or a laptop? If yes, do you have Internet access? If so, how do you connect to the Internet?
8. Do you own a smartphone with Internet access?

Social media

1. Are you using social media and which ones? Why? Why not? (If not, go to question #4)

in this section)

2. Which social media do you prefer? How often do you use social media? Has your use of social media changed your use of traditional dissemination channels, such as email? If yes, in what way?
3. What type of information do you share on social media?
4. What do you see as the main problems that are keeping you from using social media?
5. How do you feel about the library's adoption of social media? How important is the use of social media in academic libraries to you? Why? or why not?
6. How and where did you hear about the library's social media?
7. Did you start using the library's social media voluntarily?
8. Do you feel that the library's staff are supportive of social media? If not, which aspects do you think lack support?
9. How has the library communicated with you and what medium of communication would you prefer and why? Do you feel that social media provides an open means of communication?
10. Would you like the library to interact with students using social media as an additional means of communication? Why? or why not?
11. Do you interact with the library via social media? In your view, what are the advantages of social media and how would you benefit academically from it?
12. Do you think social media is easy to use? Why and what makes it easy? Do you find any aspects of social media complicated? If so, what are those?
13. How frequently would you want the library to communicate with students via social media? What type of information would you want the library to share with students?
14. Do you have the necessary knowledge to use social media? If not, do you think training would be helpful?
15. Would you welcome social media as a marketing strategy from the university library?
16. Are there any limitations or challenges that you face regarding social media in relation to the university's library? Are there certain aspects that you would like to change?
17. Are the library's facilities and connectivity reliable?
18. Does your campus library have guidelines on how to use social media?
19. Do you intend to use social media in future?

Conclusion

1. Do you have any questions or comments?
2. Would you like to be informed of the results of this research?

Thank you for sparing time off your busy schedule to participate in this interview.

Appendix 4: Interview guide: University of Limpopo (Students)



INTERVIEW PROTOCOL AND QUESTIONS

The pre-identified open-ended questions serve as a basis to prompt discussion with the opportunity to pursue points of particular interest that may arise during the interview and to use probing questions to further the discussion. The set of questions are guidelines and serve as a semi-structured interview even if it means not following the set of questions in chronological order.

Demographic information

1. What were your upbringing and living conditions like? Was it a stable environment?
2. What type of settlement did you live in (city, urban settlement, rural village, other)? What in your opinion were the main challenges you faced in your community? If so, have you managed to overcome these challenges?
3. Was your high school education with or without disruptions? Was your school situated in an urban or rural settlement? Other?
 - a. Did you receive computer training?
4. How many people are currently living in the household?
5. What is the highest level of education in your household? How many members are employed? Approximately, what is your household's monthly income?
6. Who pays for your tertiary education?
7. Do you have a desktop computer and or a laptop? If yes, do you have Internet access? If so, how do you connect to the Internet?
8. Do you own a smartphone with Internet access?

Social media

1. Are you using social media and which ones? Why? Why not? (If not, go to question #4 in this section)
2. Which social media do you prefer? How often do you use social media? Has your use of social media changed your use of traditional dissemination channels, such as email? If yes, in what way?
3. What type of information do you share on social media?
4. What do you see as the main problems that are keeping you from using social media?
5. How do you feel about the university library being a non-adopter of social media? How important is the use of social media in academic libraries to you? Why? or why not?
6. Have you and your peers discussed possible social media adoption by the library?
7. Are you in favour of social media being made available where students can voluntarily respond to posts?
8. Do you feel that the library's staff will be supportive of social media? If not, which aspects do you think lack support?
9. How has the library communicated with you and what medium of communication would you prefer and why? Do you feel that social media provides an open means of communication?
10. Would you like the library to interact with students using social media as an additional means of communication? Why? or why not?
11. If the library adopts social media, will you interact with the library on these platforms? In your view, what are the advantages of social media and how would you benefit academically from it?
12. Do you think social media is easy to use? Why and what makes it easy? Do you find any aspects of social media complicated? If so, what are those?
13. How frequently would you want the library to communicate with students via social media? What type of information would you want the library to share with students?
14. Do you have the necessary knowledge to use social media? If not, do you think training, or some form of intervention would be helpful?
15. Would you welcome social media as a marketing strategy from the university library?
16. Do you perceive any limitations or challenges regarding social media in relation to the adoption of social media by your university's library?
17. Are the library's facilities and connectivity reliable?
18. Does your campus library have guidelines on how to use social media?

19. Do you intend to use social media in future?

Conclusion

1. Do you have any questions or comments?
2. Would you like to be informed of the results of this research?

Thank you for sparing time off your busy schedule to participate in this interview.