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THE EFFECTIVENESS OF WEB 2.0 IN MARKETING ACADEMIC LIBRARY
SERVICES IN NIGERIAN UNIVERSITIES: A CASE STUDY OF SELECTED
UNIVERSITIES IN SOUTH-SOUTH NIGERIA

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(Information Studies) in the School of Social Sciences, College of Humanities, University of
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January 2017

DECLARATION

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ABSTRACT

The purpose of this study was to explore the effectiveness of using Web 2.0 to market academic libraries services in three purposively selected universities in South-South Nigeria. The following research questions were addressed:

- 1) What are the Web 2.0 tools used by academic libraries in South-South Nigeria?
- 2) To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services?
- 3) What policies do academic libraries in South-South Nigeria have to guide the implementation of Web 2.0 tools for effective marketing of their services?
- 4) What are the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services?

The post-positivism paradigm was used to underpin the study with an exploratory survey research design. The population of the study consisted of librarians and students in the institutions surveyed. Purposive random sampling was used to select the respondents. The validity and reliability of the data collection instruments were achieved through the piloting and triangulation. Survey questionnaires and semi-structured face-to-face interviews were used to collect data. Statistical Package for Social Sciences (SPSS) was used to sort, code and analyse quantitative data, while thematic content analysis was used to analyse qualitative data.

The results revealed that librarians and students in the selected universities in South-South Nigeria were active users of Web 2.0 tools. The results further revealed that the most used Web 2.0 tools were Facebook, Twitter, Instant Message, and Internet Forum. Moreover, it was found that Web 2.0 tools were being used to promote library services, reach a new audience of potential users, push library news and press releases to users and provide quick updates about the services to users as well as provide reference services online. The results showed that librarians and students in the institutions surveyed have positive attitude and perception towards the use of Web 2.0 tools, and librarians desire to use Web 2.0 tools. Students were interested in using Web 2.0, as librarians were anxious to learn modern ways of marketing library services. The results revealed a lack of policies to guide the implementation of Web 2.0 tools for the marketing of library services in the institutions surveyed. The results found the need to optimise the use of Web 2.0 tools to market library

services through training of librarians, the provision of stable and/or alternative power supply, the provision of adequate funding and facilities for the implementation of Web 2.0 tools.

This study has implications for practice, policy, methodology and theory. From the practical perspective, the study creates awareness about using Web 2.0 tools to market academic library services widely to users anytime anywhere. The study also provides baseline information for improving access and use of library services in an environment of rising cost of journals and other information resources. The study also provides information upon which relevant training programmes for librarians and students can be based to enhance provision and use of library services respectively. As far as policy is concerned, the study provides a framework for developing relevant policies and availing necessary resources to leverage opportunities created by new technologies for effective marketing of library services to the users. Theoretically, the study contributes towards validating UTAUT in an academic library environment and from a developing country perspective regarding the constructs of behavioural intention, effort expectancy, performance expectancy, social influence and facilitating conditions.

The study recommends among other things the provision of adequate budget to libraries for information technology infrastructure development, capacity building, creating enabling and conducive institutional environment through relevant policies to optimise the use of Web 2.0 tools. The study also recommends the infusion of Web 2.0 into the General Studies (GS) curriculum, a compulsory course at the entry level into the university that exposes students to liberal education.

DEDICATION

This thesis is dedicated to the Almighty God in Whom, I live, move and have my being; to the memories of my mum, Madam Maria Osakwe who taught me to believe in God, myself, working hard, love unconditionally and forgive easily; my husband, Okite Amughoro for co-creating with me gifts money cannot buy, God has reasons for allowing certain things to happen, we cannot fathom His ways but we simply just trust His will (Jeremiah 29:11); and to my arrows shot into the future, Maro Ebube and Mine Ezinwa, it will only get better and thanks for putting up with your absentee mum!

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List of Abbreviations

ACRL	The Association of College and Research Libraries
ALA	American Library Association
BI	Behavioural Intention
CAS	Current Awareness Service
C-TAM-TPB	Combined Technology Acceptance Models and the Theory of Planned Behaviour
CV	Curriculum Vitae
DELSU	Delta State University
DOI	Diffusion of Innovation Theory
DOI	Diffusion of Innovation Theory
EE	Effort Expectancy
EE	Effort Expectancy
eWOM	Electronic Word of Mouth
FC	FC Facilitating conditions
FC	FC Facilitating conditions
FCT	Federal Capital Territory
GS	General Studies
ICT	ICT Information and Communication Technology
IM	IM Instant Messaging
IM	Intrinsic Motivation
IOR	Impact on Relationship
IS	IS Information System
IS	Information Systems
IT	Information Technology
IT	Information Technology
JSTOR	Journal Storage
JUIT	Jaypee University of Information Technology
LI	LinkedIn
LIS	Library and Information Science
MM	MM Motivational Model
MM	Motivational Model
MM	Motivational Model

MPCU	Model of PC Utilization
NGO	Non-Governmental Organisation
NUC	National University Commission
OCUL	Ontario Council of the University Library
OPAC	Online Public Access Catalogue
PBC	Perceived Behavioural Control
PBI	Perceived Behavioural Intention
PC	Personal Computer
PE	Performance Expectancy
PE	PE Performance expectancy
PEOU	Perceived Ease of Use
PEOU	Perceived Ease of Use
PhD	Doctor of Philosophy
PU	Perceived Usefulness
PU	Perceived Usefulness
ROI	Return on Investment
RSS	Really Simple Syndication
RT	Retweet
SCT	Social Cognitive Theory
SDI	Selective Dissemination of Information
SI	Social Influence
SL	Second Life
SME	Small and Medium-sized Enterprise
SNS	Social Networking Site
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TAM2	Technology Acceptance Model 2
TPB/DTPB	Theory of Planned Behaviour/Decomposed Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UK	UK United Kingdom
UKZN	University of KwaZulu-Natal
UNIBEN	University of Benin
UNICAL	University of Calabar

UNIPORT	University of Port-Harcourt
US	United States
UTAUT	Unified Theory of Acceptance and Use of Technology
WAP	Wireless Application Protocol
WMS	Web Map Service

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Web 2.0 is “a collective term for certain applications of the Internet and the World Wide Web, including Blogs, Wikis, video sharing services, and social media websites such as Facebook and MySpace, which focus on interactive sharing and participatory collaboration rather than simple content delivery” (Business Dictionary, 2015). O’Reilly and Musser (2006), defined Web 2.0 as a set of economic, social and technology trends that collectively form the basis for the next generation of the Internet; a more mature, distinctive medium characterised by user participation, openness and network effects. Such network effects are: databases that get richer the more people interact with them, applications that are smarter the more people use them, as well as marketing that is driven by user experiences and applications that interact with each other to form a broader computing platform (O’Reilly & Musser, 2006). Web 2.0 technologies include an increased emphasis on user generated content, data and content sharing, collaborative effort and the use of the Web as a social platform for generating, repositioning and consuming content (Harris & Rea, 2009). The term Web 2.0 was popularised at the O’Reilly Media Web 2.0 conference¹ in 2004 (O’Reilly, 2005a, 2005b).

The applications developed under the Web 2.0 umbrella include Internet forums, message boards, weblogs (blogs), publishing (Wikis, Wordpress, blogger.com), podcasts, pictures, social networking sites (Facebook, MySpace, LinkedIn), social photo and video sharing (YouTube, Vimeo, Hulu, Flickr, Photobucket), microblogger (Twitter), Digg, StumbleUpon, Delicious, Scribd, Social news (Dig, Propeller), audio (iTunes, Pandora, Rhapsody), virtual worlds (second life) and social bookmarking (Del.icio.us, Simpy, Blinklist), Academia.edu (Kaplan & Haenlein, 2010; Khan & Bhatti, 2012; Kumar, 2013; Sumeer, Tariq, & Nahida, 2014). Although the term Web 2.0 suggests a new version of the World Wide Web, it does not refer to an update to any technical specifications, but rather to cumulative changes in the

¹ The Web 2.0 conference was held October 5-7, 2004 at the Hotel Nikko in San Francisco. Attendees joined leaders of innovative start-ups and industry titans at the first-ever second-generation internet business conference on three-days of high-level discussions around the theme “The Web as Platform” <http://conferences.oreillynet.com/web2con/>.

ways software developers and end-users utilise the Web (Abram, 2008). The concepts of Web 2.0 tools have led to the development and evolution of web-based communities, host services (that allow users to upload content that they have created for others to view such as YouTube for videos and Flickr for photographs) and applications (Kirschner & Wopereis, 2013). With the rapid changes in the field of information and communication technologies (ICTs), library and information centres are constantly changing and Web 2.0 tools are assisting librarians to overcome barriers to communication and the “distance” between the libraries and users (Stuart, 2010).

In keeping their prominent position as information providers and promoting value-added services against increasing competition, rising costs and budget cuts, libraries have begun to realise that marketing is an integral part of promoting information services. Marketing is a means of improving user satisfaction and promoting the use of services by users. With increased competition in the world of information, marketing is a factor for survival with many academic libraries adopting and implementing Web 2.0 applications to promote their services (Bamigbola, 2013; Garoufallou, Siatiri, Zafeiriou, & Balampanidou, 2013; Joseph & Parameswari, 2005; Techataweewan, 2012).

Several studies including Rogers (2009), Virkus and Bamigbola (2011), Khan and Bhatti (2012), and Techataweewan (2012) have revealed how libraries in United States, Europe and Asia are using Web 2.0 tools to enhance their services to patrons. Various studies in Africa have also revealed the potential and reported the actual use of Web 2.0 for dynamic and effective service delivery by libraries (Baro, Ebiagbe, & Godfrey, 2013; T. Kwanya, 2011; T Kwanya, Stilwell, & Underwood, 2012b).

The extant literature shows that although Web 2.0 tools are used to market academic library services (Aduko & Dadzie, 2013; Dahl, 2014; Yi, Lodge, & McCausland, 2013), no assessment of their effectiveness in Nigerian universities has been conducted. Furthermore, while there have been some efforts in the use of Web 2.0, an assessment needs to be done so that academic libraries in Nigeria are not left behind as the rest of the developed world fully embraces Web 2.0 and races towards the newer ‘Web 3.0’ (Wood, 2011). Therefore, it is important to study the effectiveness of Web 2.0 tools in marketing academic libraries services to improve knowledge among users in the selected universities in the South-South Nigeria.

1.2 Context of the Study

The web before the dot.com crash² is usually referred to as Web 1.0. O'Reilly (2005a) cited a number of examples of how Web 2.0, a platform for participation can be distinguished from Web 1.0, which was mainly a super-highway for information. Thus, Web 1.0 is characterised as “read-only Web” and Web 2.0 as “read-write Web” which “enables the users to add, share, rate or adjust information” (Downes, 2005:1). Shafique (2011) asserts that Web 2.0 has become more common than Web 1.0 mainly because of its interactive, social, and community features. Web 2.0 concepts have led to the development of web-based communities, hosted services and applications such as social networking sites (SNSs), video-sharing sites, wikis, blogs, folksonomies, podcasts, really simple syndication (RSS), instant messages (IM); where friends or friends of friends are able to add and edit the content, creating a socially networked web environment (Buigues-García & Giménez-Chornet, 2012; Mahmood & Richardson, 2011; Si, Shi, & Chen, 2011; Tripathi & Kumar, 2010).

Web 2.0, according to Chad and Miller (2005), has generated other related terms such as Library 2.0, Librarian 2.0, User 2.0, Learning 2.0, and Information Literacy 2.0. These terms basically represent myriad viewpoints concerning how academic librarians can utilise Web 2.0 tools for creating, remixing, and disseminating information as well as enhancing their services (Baro, Edewor, & Sunday, 2014). Web 2.0 has also been referred to as a social revolution enabling and encouraging participation through open applications and services (Birdsall, 2007); a technology with profound potential for inducing change in higher education (Franklin & Van Harmelen, 2007); second generation of web-based tools and services that allows easy publication, sharing of ideas and re-use of study content, commentaries and links to relevant information resources (Guntram, 2007); and community-driven online platform encouraging users to be collaboratively creating and sharing their own insights on current and emerging themes within their education rather than technology (Boulos & Wheeler, 2007; Downes, 2005).

Bradley (2007) opined that libraries should explore novel ways of communicating and attracting users through the use of Web 2.0. Miller (2005) advocated the use of Web 2.0 by

² A period in early 2000 when share prices suddenly went down as hundreds of companies doing business on the Internet failed or lost most of the value of their shares.

libraries in order to serve the users better, attract and retain potential users. He further cautioned that if libraries do not use these tools to enhance services, they are likely to be ignored by users. According to Alkindi and Al-Suqri (2013) at a time when Web 2.0 applications in libraries have gained growing popularity globally, it appears that the library must consider marketing its services more regularly through the Internet, taking advantage of Web 2.0 applications to improve access to its users and to promote information services. The rise of online social networking tools is rooted in the emergence of Web 2.0. Due to the high use of social networks among students and academics, librarians support these social web to reach out to the student population (Farkas, 2007a; Milstein, 2009). Maintaining a virtual library in Second Life, community book services, community photo services, streaming audio and video, chat, reader's advisory, book lists, bookmarking, user added reviews/ratings/summaries, and SNSs are some Web 2.0 services currently used by libraries (Kumar, 2013; Tripathi & Kumar, 2010).

Several studies have shown that Web 2.0 tools can be used to enhance library services (Bradley, 2007; Huffman, 2006; King & Porter, 2007). Tedd (2008) observed that Web 2.0 tools offer new opportunities for better design and delivery of library services but will also make more demands on the library staff and system. Coyle and Hillmann (2007) and Sadeh (2007) assert that by not following technological innovations and trends on the web, libraries cannot be able to compete with services such as Amazon or Google and may lose their position as primary information providers. A survey conducted by Boateng and Quan Liu (2014) on the application of Web 2.0 showed 100% of the libraries surveyed have adopted and use Web 2.0 tools. Another study conducted by Mahmood and Richardson (2011) on 100 academic libraries in the United States revealed that a large number of these libraries have an icon for Web 2.0 tools on their websites. Xia (2009) also concluded that Facebook provides an easier and more manageable way of enhancing library services and encouraging faculty to use library resources. Some academic libraries embed the library catalogue into Facebook to allow students to access the content of the library catalogue without actually visiting the library's web site (Farkas, 2007c).

Twitter also can be used for exchanging information and librarians can be encouraged to use it to hold conversations with users (Milstein, 2009). Deyrup (2010:149) demonstrated that Web 2.0 applications can be used for marketing purposes. He concluded that librarians are using SNSs like Myspace and Facebook to promote library affiliation and community

building; virtual environments such as Second Life to create alternative library spaces; and RSS feeds, wikis, and blogs to post announcements and post other information”. Horn (2011) found that Web 2.0 applications are the best tools for marketing library collections, marketing the library itself by posting different photos inside the library of computers, books, rooms and so on, and marketing library programmes.

A study by Garoufallou and Charitopoulou (2011) revealed that YouTube and Flickr were the second most used Web 2.0 tools after Facebook by the students. They added that students who use Flickr tend to use YouTube as well. Further review of literature shows that some of the challenges of using Web 2.0 tools are: inadequate number of computers, unstable Internet connectivity, and insufficient electricity; inadequate awareness and Internet skills; inadequate financial resources; and a shortage of trained ICT and library staff. Others are lack of supportive policy or guidelines, lack of security and lack of ownership of intellectual property of Web 2.0 services (Aduko & Dadzie, 2013; Ezeani, 2011; T Kwanya, Stilwell, & Underwood, 2012a; Muneja & Abungu, 2012).

Furthermore, Web 2.0 tools have influenced the effective delivery of library services which include increased user-generated content in the catalogue, and improved information sharing and communication. The adoption of these tools showed that Web 2.0 technologies can be utilised to enhance the delivery and promotion of library services without undermining their quality (Lwoga, 2014). The tools have also enabled libraries to involve users in their activities and solicit their feedback for improving the library services and resulted in better usability of academic library resources (Hangsing & Sinate, 2012). Web 2.0 tools have also expanded the scope and depth of library services provided online through library websites and portals (Gichora & Kwanya, 2015). Yi’s (2014) confirmed that some librarians marketed services and resources using a variety of effective Web 2.0 tools such as blogs and email newsletter, while others used different, but still effective, Web 2.0 tools such as Twitter, wikis, and YouTube to market services and resources.

The gaps identified from the reviewed literature show that only University of Benin (UNIBEN), University of Port-Harcourt (UNIPORT) and the University of Calabar (UNICAL) in South-South Nigeria have their library web pages linked to Web 2.0 sites. Therefore, little is known about how the other academic libraries in the region are using Web 2.0 tools to market their services and the factors influencing the effectiveness of such tools. It is expected that the results of this study will help academic libraries in the South-South

region to assess the Web 2.0 tools used for marketing library and information services; reflect on the factors influencing their use and effectiveness; identify the challenges hampering their effective use; and gain a better understanding of the best practices in using these tools to market and enhance library services.

1.3 Statement of the Problem

The real challenge facing academic libraries the world over is not only how to manage their collection, staff and technology but also how to turn these resources into services that effectively meet the needs and wants of their users. One of the ways to enhance the reach and effectiveness of library services and products is strategic marketing. The marketing of library services should not just focus only on increasing minor elements such as gate count or circulation figures as a way of measuring success but on the users' satisfaction with the services and how they are delivered (Gupta, 2003). Therefore, academic libraries need to embrace and apply all available tools and strategies to ensure that their services and products as well as how they are delivered meet the expectations of their user communities (Braun, 2009).

Many academic libraries in Nigeria have embraced and use Web 2.0 tools to promote library services (Anyaku, Orakpor, & Ezejiofor, 2012; Baro, *et al.*, 2013; Ezeani & Igwesi, 2012; Olajide & Oyeniran, 2014). However, there is limited understanding of factors influencing the use of Web 2.0 tools for marketing academic library services. In addition, there is little appreciation of how Web 2.0 tools can be leveraged to enhance the provision of library services in academic libraries in South-South region in Nigeria. There is also lack of awareness about Web 2.0 tools and their use in libraries. Importantly, some libraries that have adopted Web 2.0 tools are not using them effectively to market and deliver library services (Anyaku *et al.*, 2012; Baro, Idiodi, & Godfrey, 2013; Ezeani & Igwesi, 2012).

Therefore, this study aims to explore the use of Web 2.0 tools in marketing and delivery of library services by academic libraries in South-South Nigeria. The study will further examine best practices in the use of Web 2.0 tools in the marketing of academic library services.

1.4 Research Objectives

The main objective of this study is to explore the effectiveness of using Web 2.0 tools to market academic libraries services in selected Nigerian universities in the South-South region. The study identifies the Web 2.0 tools used and explains their adoption and application to market academic library services. Furthermore, the study explores policies on

the benefits of using Web 2.0 to market academic library services. The study also evaluates the best practices on how to optimise the use of Web 2.0 tools to market libraries services in universities in South-South Nigeria in particular and africa at large.

The study addresses the following research objectives:

- To determine the extent to which academic libraries in South-South Nigeria are using Web 2.0 tools to market library services.
- To examine the effectiveness of Web 2.0 tools in marketing academic library services in South-South Nigeria.

The broader issues also investigated in the study include:

- The benefits of Web 2.0 tools in marketing academic library services in Nigeria;
- The factors influencing the use of Web 2.0 tools to market academic library services and products in Nigeria.

1.5 Research Questions

The study sought answers to the following research questions:

- What are the Web 2.0 tools used by academic libraries in South-South Nigeria?
- To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services?
- What are the attitude and perceptions of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services?
- What policies do academic libraries in South-South Nigeria have to guide the implementation of Web 2.0 tools for effective marketing of their services?

1.6 Significance of the Study

The study explored the effectiveness of using Web 2.0 tools to market academic library services in selected universities in South-South Nigeria. The study is expected to contribute towards better understanding of the field of librarianship with regard to the application of Web 2.0 tools to market information services to a wide reach of users. The study proffers the diverse ways through which academic libraries can use Web 2.0 tools to effectively market library services. The study provides the foundation upon which relevant policy can be formulated to guide the implementation of Web 2.0 tools in the marketing of library services.

1.7 Study Site

Nigeria, is geographically located in Western Africa on the Gulf of Guinea with a total area of 923,768 km² (356,669 sq mi) making it the world's 32nd-largest country (after Tanzania); bordering Niger in the north, Benin in the west, Chad and Cameroon in the east; while its coast in the south lies on the Gulf of Guinea in the Atlantic Ocean. Nigeria comprises of 36 states and the Federal Capital Territory (FCT) where the capital Abuja is located. It is divided into six geopolitical zones (region); North-Central, North-East, North-West, South-East, South-West and South-South. These geopolitical zones were carved out based on states with similar cultures, ethnic groups, and common history.

There are 129 universities registered by National University Commission (NUC) throughout all the federal states of the country (NUC Bulletin, 2014). The study was carried out in South-South Nigeria. The South-South region of Nigeria comprises of six states; Edo, Delta, Bayelsa, Rivers, Cross-River and Akwa Ibom and is strategically located at the point where the Y tail of the river Niger joins the Atlantic Ocean through the Gulf of Guinea. The study area shares boundaries with Ondo, Kogi, Anambra, Imo, Abia, Ebonyi and Benue. Top cities/towns in the zone are Benin, Port-Harcourt, Calabar, Warri, Uyo, Yenagoa, and Asaba. Cross-River State (20,156 km²) is the biggest in the South-South even as Akwa-Ibom (7,081 km²) is the smallest. In South-South, the major languages are Ijaw (Bayelsa), Bini, Esan (Edo), Urhobo, Itsekiri (Delta), Ikwere, Ogoni (Rivers) Ibibio, Annang (Akwa Ibom) and Efik, Ejagham (Cross River) (Smart, 2015). The South-South was chosen because very little research has been conducted on the implementation and use of Web 2.0 tools in the region and no assessment of the effectiveness of Web 2.0 tools in Nigerian universities has been conducted. Figure 1.1 depicts the map of Nigeria showing the six geopolitical regions while Figure 1.2 shows the map of South-South region.

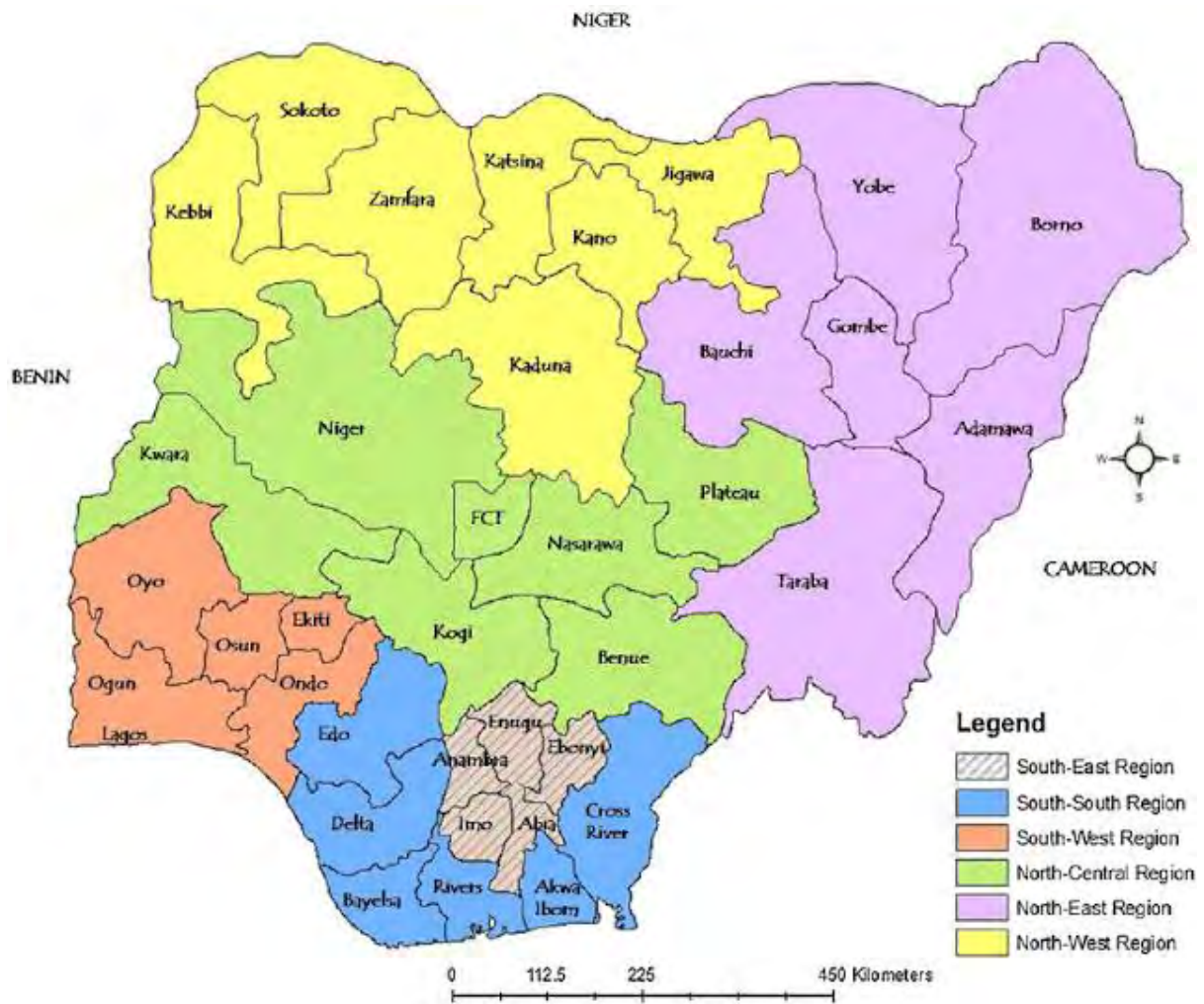


Figure 1.1: Map of Nigeria Showing the Six Regions (Source: SkyscraperCity.com, 2011)



Figure 1.2: Map of Nigeria's South-South Region (Source: Agbu, 2012)

1.8 Scope and Limitation of the Study

The population for the study consisted of librarians from UNIBEN, UNIPORT and UNICAL in the South-South geo-political regions Nigeria. These universities were selected for the study for being the only institutions with viable library websites that use Web 2.0 tools (such as Facebook, Twitter, and Blogs). The selection of the South-South region was made following a preliminary survey by the researcher which seemed to suggest that these universities were using Web 2.0 links. The researcher's familiarity with the values and norms of the South-South region was also a contributing factor to the choice of studying universities in this region.

Within the surveyed universities, the focus was placed only on main libraries because the institutions did not have a uniform number of faculties and faculty libraries. For instance, UNIBEN³ had 13 faculties and 12 faculty libraries; UNIPORT⁴ had 16 faculties and 12 faculty libraries while UNICAL⁵ had 9 faculties and 5 faculty libraries respectively. At the time of the study, the entire population of librarians and students in the three universities surveyed was 110, 550; consisting of 550 librarians and 110,000 students respectively.

During the data collection stage, the targeted librarians were on strike and it was difficult to reach them and administer questionnaires. However, with the assistance of the deputy librarian and the system librarian, the researcher was able to schedule a meeting with some of the librarians when they had their union meeting at the institutional library to gather data from them. For the librarians that were not on strike, the pace of returning questionnaires was slow. After several follow-ups, the researcher was able to get some of them to complete and return the questionnaires. In addition, getting students who were in their third and fourth year of study required the researcher to reach them in the lecture halls while they were attending classes after obtaining their class time-table and permission from the lecturers. This meant those who were absent could not be reached.

1.9 Theoretical Framework for the Study

This study adapted the Unified Theory of Acceptance and Use of Technology (UTAUT), a model developed by Venkatesh, Morris, Davis and Davis (2003), synthesized from eight

³ <http://www.uniben.edu.ng>

⁴ <http://www.uniport.edu.ng>

⁵ <http://www.unical.edu.ng>

existing models of use of technology that include Theory of Reasoned Action (TRA); Theory of Planned Behaviour (TPB); Technology Acceptance Model (TAM); a combination of Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB) Model (C-TPB-TAM); Diffusion of Innovation Theory (DOI); Motivational Model (MM); Model of PC Utilization (MPCU); and Social Cognition Theory (SCT) (Oshlyansky, Cairns, & Thimbleby, 2007).

TRA was developed by Fishbein and Ajzen (1975, 1980) and has three general components namely behavioural intention, attitude and subjective norms and suggests that a person's behaviour depends on the person's attitude and subjective norms. It implies that a person's intention to behave in a certain way is a function of two basic determinants: one personal in nature and the other reflecting social influence.

TPB is essentially an extension of TRA by Ajzen (1991), which includes measures of controlled belief and perceived behavioural control. Perceived behavioural control shows that a person's intention is influenced by how difficult the behaviours are perceived to be and the perception of how successfully the person can and cannot perform the activity.

Based on TRA, TAM was developed by Davis (1989) and deals more specifically with prediction of the acceptability of information system and founded on the hypothesis that technology acceptance and use can be experienced in terms of a user's internal beliefs, attitudes and intentions. C-TPB-TAM described the combination of the best of the TAM and the TPB models as the predictors of the TPB with perceived usefulness from the TAM to provide a hybrid model consisting of four factors, namely attitude, perceived behavioural control, subjective norms and perceived ease of use (S. Taylor & Todd, 1995c).

Developed by Rogers (1995), DOI describes the patterns of adoption, explains the mechanism, and helps predict whether a new invention will be successful; MM explains the origin of behaviour initiated by the individual's desire for exterior gains and the appropriateness of the technology (Davis, Bagozzi, & Warshaw, 1992). MPCU is underpinned by theories of attitude, behaviour and interpersonal relationship theory. It suggests that the utilization of a PC by a knowledge worker in an optional use environment would be influenced by the individual's feelings (affect) toward using PCs (Thompson, Higgins, & Howell, 1991), while SCT postulates that cognitive development is analyzed in terms of the sets of cognitive competencies governing given domains of functioning rather than discrete uniform ways of thinking (Bandura, 1986).

The four major constructs that determines technology acceptance and use in the UTAUT model are: a) Performance Expectancy (PE): the degree to which an individual believes that using the system will help him/her to attain gains in job performance; b) Effort Expectancy (EE): the degree of ease associated with the use of the system; c) Social Influence (SI): the degree to which an individual perceives that important others believe he or she should use the new system; and d) Facilitating Conditions (FC): the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh, Morris, Davis, & Davis, 2003).

According to Venkatesh *et al.* (2003) the effect of these four constructs is influenced by four other variables: a) Age: the degree to which the age of an individual affects their use a new system; b) Gender: the extent to which if being a female or male makes it easy to use a new system; c) Experience: the degree of use over time with gaining experience in the use of a system; and d) Voluntariness: the degree the system is used voluntarily.

The UTAUT model's suitability, validity and reliability in technology adoption studies in different contexts has been proven by different scholars (Anderson & Schwager, 2004; Lin, Chan, & Jin, 2004; Rosen, 2005; Venkatesh et al., 2003). Even though this model has attained an adequate reception from different scholars, a number of shortcomings exist, attitude (the individuals' feelings) towards the use of the technologies (Fishbein & Ajzen, 1975) an important component in TRA and the TAM is not explicitly included in the UTAUT model (Thomas, Singh, & Gaffar, 2013a). Taiwo and Downe (2013) also observed the significance of the relationship between facilitating conditions and use behaviour. Nevertheless, the benefits obtained from this model are far more significant than the shortcomings listed above (Mayer-Schönberger & Lazer, 2007). Despite its limitations, the UTAUT model is an important model because it integrates eight major theories and was tested on a large real world data set (Im, Hong, & Kang, 2011). According to Venkatesh *et al.* (2003), the effect of attitude on behavioral intention is spurious and it emerges only when performance expectancy and effort expectancy are omitted from the model. This means that attitude towards the use of the technologies does not provide enough unique information beyond that which is already provided jointly by performance expectancy and effort expectancy.

Performance expectancy and effort expectancy are used to integrate variables such as perceived usefulness and ease of use. The model suggested that the effort expectancy

construct can be significant in determining user acceptance of information technology. The model explains that individual differences influence technology use. The UTAUT was developed to explain users' behaviour intention to use an information system as well as increase usage behaviour (Alshehri, Drew, Alhussain, & Alghamdi, 2012). UTAUT is believed to have 70% predictive capacity, and this is reason for its choice for this study (Thong, Hong, & Tam, 2004).

1.10 Methodology

The research design is a strategic framework for action that serves as a bridge between research questions and the execution of the research. A research design guides and directs the collection and analysis of data (Creswell & Plano Clark, 2007; Durrheim, 2006). Like building plans, research designs ensure that the study fulfils a particular purpose and that the research can be completed with the available resources (Durrheim, 2006). An exploratory survey research method design will be employed in this study to enable the researcher collect data, analyse data and draw conclusions because the topic of study is new. A survey research is chosen due to its capacity to generate quantifiable data on a large population group that is representative of a wider population for the purpose of testing theory (Leedy & Ormrod, 2001).

According to Pickard (2013), the three major research paradigms associated with the social sciences are:

- Interpretivism which holds the assumptions that individuals seek to understand the world they live and work in. They often focus on the specific contexts in which people live and work in order to understand the historical and cultural settings of the participants involved in a study (Creswell, 2008).
- Positivism, on the other hand, uses scientific methods and language to investigate and document human experiences. The emphasis of positivism is on quantifiable results that lend themselves to statistical analysis.
- Post-positivism refers to the thinking after positivism which challenges the traditional notion of the absolute truth of knowledge (Phillips & Burbules, 2000) and recognizes the fact that human beings cannot be "positive" about their claims of knowledge when studying their behaviour and actions.

A post-positivist research approach will be adopted for this study. Post-positivism advocates methodological pluralism (mixed methods) which is built on the assumption that the choice of a research method is based on the types of research question posed by the research, with the view that each research approach can contribute to the understanding of a general research problem by addressing different specific research problems (Wildemuth, 1993).

There are different types of research approaches which include quantitative, qualitative or mixed research methods (Creswell, 2008). Quantitative research methods are based on the generation and manipulation of numbers using statistical analysis and typically deductive in nature ((Teddlie & Tashakkori, 2009). This implies that researchers design experiments to either confirm or reject a pre-determined hypothesis. Qualitative data typically consists of material that is difficult to quantify such as interview transcripts, observations of non-verbal communication, drawings or film. Qualitative research concerns itself with meaning, social context and personal experience (Denzin & Lincoln, 2005; Snape & Spencer, 2003).

On the other hand, Tashakkori and Creswell (2007) define the mixed method approach as research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study of inquiry.

The mixed methods research approach was adopted for this study. It offers richer insights into the phenomenon being studied and facilitates the capture of information that might be missed when only one research design is used. The intent for using mixed methods (quantitative and qualitative research designs) is to maintain the strengths and ameliorate the salient weaknesses in both designs (Caruth, 2013; Creswell, 2012; Gall, Gall, & Borg, 2007; Greenwood & Terry, 2012; Salehi & Golafshani, 2010; Truscott et al., 2010; Venkatesh, Brown, & Bala, 2013).

1.11 Structure and Organisation of the Thesis

This thesis is organised in seven chapters as follows: Chapter one: Introduction, Chapter two: Theoretical framework, Chapter three: Literature review, Chapter four: Methodology, Chapter five: Data analysis and presentation of findings, Chapter six: Discussion of findings, and Chapter seven: Summary, conclusion and recommendations.

Chapter One: Background to the Study

This chapter covers introduction, the background to the research problem, research problem, aim, and research objectives, research questions, the significance of the study, scope and limitations of the study, as well as structure and organisation of the thesis.

Chapter Two: Theoretical Framework

This chapter provides a comprehensive discussion of theoretical framework grounded on technology acceptance and use with emphasis on the Unified Theory of Acceptance and Use of Technology (UTAUT).

Chapter Three: Literature Review

The chapter presents a detailed review of existing empirical and theoretical literature from a global perspective. Gaps in literature are identified and how this study helps address them provided.

Chapter Four: Methodology

This chapter discusses the research methodology including research paradigm; research approaches; research design; study population; sampling techniques; data collection methods; validity and reliability of the instrument; data analysis and ethical issues.

Chapter Five: Data Analysis and Presentation of Findings

This chapter presents the analysis of quantitative and qualitative data sourced from questionnaires and interview schedules. The data analysis is presented using frequency tables.

Chapter Six: Discussion of Findings

This chapter discusses the findings using theory and extant literature.

Chapter Seven: Summary, Conclusion and Recommendations

The chapter presents, a summary of findings, conclusion, recommendations and suggestion for further research.

1.12 Summary

Chapter one provided an introduction to the study and discussed the background to the study, context of the study, statement of the problem, research objectives, research questions, significance of the study and study site. The chapter also discussed scope and limitation of the study, theoretical framework for the study, methodology, structure and organisation of chapters and summary

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

This chapter focuses on the theoretical framework of the study. Stacks and Salwen (2009:4) stressed the importance of a theory by stating that “theory organises and refines our ideas, like a map for exploring unexplored territories”. The theoretical framework in research according to Creswell (1994) serves as the lens through which the hypothesis is examined to determine its validity. Chinn and Kramer (1999) opine that a theoretical framework is a structure that presents the theory which explains why the problem under study exists. A theoretical framework bridges the independent and dependent variables in a study, by tying together the variables and providing an overarching explanation of how and why one would expect the independent variable to predict the dependent variable (Kerlinger, 1979; Labovitz & Hagedorn, 1971).

This chapter reviews eight models upon which UTAUT underpinning this study is founded. They include: Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975); the Theory of Planned Behaviour (TPB) (Ajzen, 1991); the Technology Acceptance Model (TAM) (Davis, 1989); a model combining the Technology Acceptance Model and the Theory of Planned Behaviour (C-TAM-TPB) (Taylor & Todd, 1995b); the Diffusion of Innovation theory (DOI) (Rogers, 2003); the Motivational Model (MM) (Davis, Bagozzi, & Warshaw, 1992); the Model of PC Utilization (MPCU) (Thompson et al., 1991); and Social Cognitive Theory (SCT) (Bandura, 1986).

This chapter is therefore organised as follows; section 2.2 discusses TRA, followed by discussion on TPB in section 2.3; while section 2.4 discusses TAM. This is followed by section 2.5 which elaborates on C-TAM & TPB. Section 2.6 discusses the DOI, and then section 2.7 explains MM. The MPCU is discussed in section 2.8 and section 2.9 describes the SCT model. The next section, 2.10 explains the UTAUT model, justifying why it has been chosen for the study. Finally, the last section, 2.11, gives a summary of the chapter.

2.2 Theory of Reasoned Action (TRA)

Fishbein and Ajzen (1975) developed the theory of reasoned action (TRA). The TRA was derived from previous research that started out as theory of attitude, which led to the study of attitude and behaviour (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). There are three

major components in the TRA, namely behavioural intention, attitude and subjective norms. Ajzen and Fishbein (1980) reported that an individual's intention to behave in a certain way is a function of two determinants; one, personal in nature and the other reflecting social influence. The TRA is hinged on the premise that an individual's behaviour depends on the individual's attitude and subjective norms.

The personal component is the individual's positive or negative evaluation of performing the behaviour and it is termed attitude towards behaviour (Ajzen & Fishbein, 1980). Attitude according to Fishbein and Ajzen (1975) can be defined as a positive, negative or neutral feeling, belief, position or view towards an object, behaviour, situation, opinion based on an individual's beliefs regarding behaviour and their consequences. It implies that an individual's intention to be positive or negative, do good or bad reflects beliefs regarding behaviour and their consequences.

Social influence, the second determinant of intention is the individual's perception of the social pressures to perform or not perform the behaviour in question; and this perceived perception is called social norms (Ajzen & Fishbein, 1980). Subjective norm is an individual's perception that most people who are important to him/her think about his/her behaviour (Fishbein & Ajzen, 1975). This suggests that, for an individual to act in a way, that individual would think about the reaction of people who are important to him/her towards his/her behaviour. Subjective norms are therefore determined by the beliefs of the reaction of people that care about an individual's behaviour. Figure 2.1 depicts the variables of TRA.

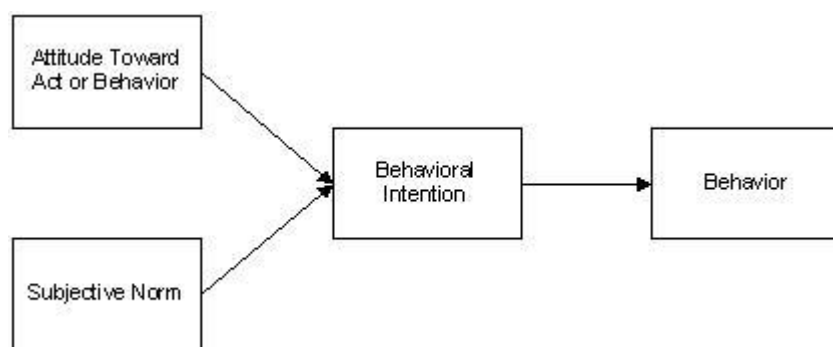


Figure 2.1: Theory of Reasoned Action (Source: Davis *et al.*, 1989).

In the context of technology adoption TRA postulates, that actual use of a specific technology is influenced by the user's behavioural usage intention, which in turn depends on the user's attitude towards the use of the technology as well as the subjective norms of using the technology predominant in the user's social environment (Barnes & Huff, 2003; Davis *et al.*, 1989; Davis, 1989). Shim, Morris and Morgan (1989) also highlighted that with the use of the TRA, one's behavioural intention is based on two factors, attitude towards the behaviour and the perception of social pressures to perform or not perform the behaviour.

A central determinant of behaviour as postulated by the theory is the individual's intention to perform the behaviour in question. People are assumed to consider three conceptually independent types of considerations, as they formulate their intentions. The first consideration is readily accessible or salient beliefs about the assumed consequences of an intended course of action, beliefs which, will in turn, result in a favourable or unfavourable attitude towards behaviour. The perceived normative expectation, of relevant referent groups or individuals is the second consideration. These salient normative beliefs lead to the formation of a subjective norm; the perceived social pressure to either perform or not to perform the behaviour. Lastly, people are presumed to take into account factors that may promote or impede their ability to perform the behaviour, and these salient control beliefs result in the formation of perceived behavioural controls, which Ajzen and Albarracín (2007) refers to as the perceived capability of performing the behaviour.

It is believed, generally, that the more favourable the attitude and subjective norms with respect to behaviour, the greater the perceived behavioural control; and the stronger should be an individual's intention to perform the behaviour under consideration. Given a sufficient degree of actual control over the behaviour, people are expected to carry out their intentions when the opportunity arises. Thus, intention is assumed the immediate antecedent of behaviour. Although, behaviour creates difficulties of execution that may limit voluntary control, it is useful to consider perceived behavioural control in addition to intention. Therefore, perceived behavioural control can serve as an alternative for actual control and contribute to the prediction of the behaviour in question (Ajzen & Albarracín, 2007).

The TRA has been incredibly influential and applied to a wide variety of behaviour (Sheppard, Hartwick, & Warshaw, 1988). Belleau, Summers, Xu and Pinel (2007) found that intention to purchase an item is volitional and very few constraints exist. The study used the theory of reasoned action because it would result in a valid prediction of purchase intention in

the clothing and textile industry which was the focus of the TRA in that study. Davis *et al.* (1989) used it to study acceptance of new technologies and obtained results that were consistent with previous studies of other behaviour. Empirical results of their study showed that perceived usefulness and enjoyment have significant influence on users' utilisation of new technology in behavioural intention. Influence of perceived usefulness on users' behavioural intention far exceeds that of enjoyment on users' behavioural intention.

Although the TRA model is a well-established model that has been applied to a variety of studies, its limitation was failing to predict behaviour under control. As a result, Ajzen (1991) expanded the TRA model, and added a new construct; perceived behavioural control to create a new framework called the TPB (Grandon, Nasco, & Mykytyn, 2011). Thus, while the TRA could adequately predict behaviour that were relatively straightforward (i.e. under volitional control), under circumstances where there were constraints on action, the mere formation of an intention was insufficient to predict behaviour (Armitage & Conner, 2001). The TRA as observed by Sheppard *et al.* (1988) neglects some of the determinants of behaviour such as the time frame within which behaviour is to take place. Sheppard *et al.* (1988) further stated that, there are three limiting factors on the use of attitudes and subjective norms to predict intentions; namely ultimate goals, choice of alternative behaviours and the expected result of engaging in a particular behaviour.

However, Fishbein (2008)) reaffirmed using the term "reasoned" because it is assumed that as one learns (such as forms beliefs) about one's world, one (often automatically) forms attitudes, perceived social norms, and perceptions of control, that in turn (and again, often automatically) influence one's intentions and behaviours. That is, these "higher-order" constructs (such as attitudes, norms, intentions) are assumed to follow reasonably from one's beliefs about the world in which one lives.

Fishbein (2008) further buttressed that the first step in using a reasoned action approach is to clearly define (and describe) the behaviour or behaviours in which one is interested but stated that unfortunately, this is not quite as easy as it may appear. He however, opines that it is much easier to predict whether one will or will not engage in a particular behaviour than whether one will or will not engage in a class of behaviours or attain a given goal. Secondly, one must also recognise that the definition of behaviour involves four elements. More specifically, behaviour can be viewed as involving an *action* directed at a *target*, performed in a given *context*, at a certain point in *time* (Fishbein, 2008).

TRA's core constructs therefore are attitude toward behaviour and subjective norms. Even though experience and voluntariness were not included in the original TRA, latter studies show that experience was positively related to attitude toward behaviour and negatively with subjective norm. Voluntariness was negatively related to subjective norm (Hartwick & Barki, 1994). The criticisms of the TRA have made this model inappropriate for this study however, the constructs of the TRA such as behavioural intention, attitude, perception that are relevant to this study are synthesised in the adapted model for the present study.

2.3 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) is essentially an extension of the Theory of Reasoned Action (TRA). The theory emerged based on the limitations of the TRA in dealing with behaviour over which people have incomplete volitional control and includes measures of controlled belief and perceived behavioural control (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). TRA is used to predict an individual's behaviour only in a real voluntary situation, not in a mandatory context (Li, 2008). Therefore, Ajzen (1991) developed the TPB to extend TRA to consider the mandatory situation, adding a new construct of perceived behavioural control in TPB.

The TPB assumptions are based on the individuals' intention to perform a given behaviour and the need to apprehend the factors of motivation that determine behaviour (Ajzen, 1991). Ajzen (1991) extended the TRA to include a measure of perceived behavioural control. Perceived behavioural control shows that an individual's intention is influenced by: how difficult the behaviours are perceived to be and the perception of how successfully the individual can and cannot perform the activity. The theory of planned behaviour is a theory which predicts deliberate behaviour, because behaviour can be deliberative and planned.

Ajzen (1985) stated that the act of the behaviour is underpinned by factors such as time, cooperation and collaboration of others' peer influence that may have little to do with motivation. Generally, the stronger the intention to engage in behaviour, the more likely should be its performance. It should be clear, however, that a behavioural intention can find expression in behaviour only if the behaviour in question is under volitional control and the person can decide at will to perform or not perform the behaviour. Although some behaviour may in fact meet this requirement quite well, the performance of most depends at least to some degree on such non-motivational factors as availability of requisite opportunities and resources such as time, money, skills, and cooperation of others (Ajzen, 1985).

Perceived behavioural control therefore, is the extent to which an individual has control over behaviour, which is determined by the individual's internal factors such as skills, competence and external factors, such as the availability of resources to predict intention and behaviour (Smarkola, 2008). Ajzen (1991) noted that both factors demonstrate the individuals' regulation of behaviour. The individual's intention to perform the behaviour may suggest the level of success in performing the behaviour.

Ajzen (1991) further observed that a strong behavioural intention would most likely result in the behaviour being performed. The proviso under this circumstance is that behaviour should be voluntary but not imposed. The TPB in contrast to the TRA model, reports the aspects of an individual behaviour that may not require voluntary regulation of that individual. The major difference between the TPB and the TRA is the extending of TPB by using an additional variable, the perceived behavioural control (PBC). Perceived behavioural control is defined as "the perceived ease or difficulty of performing the behaviour" (Ajzen, 1991:188). In the context of IS research, perceived behavioural control is defined as "perceptions of internal and external constraints on behaviour" (Taylor & Todd, 1995a:149). Figure 2.2 depicts the theory in the form of a structural diagram.

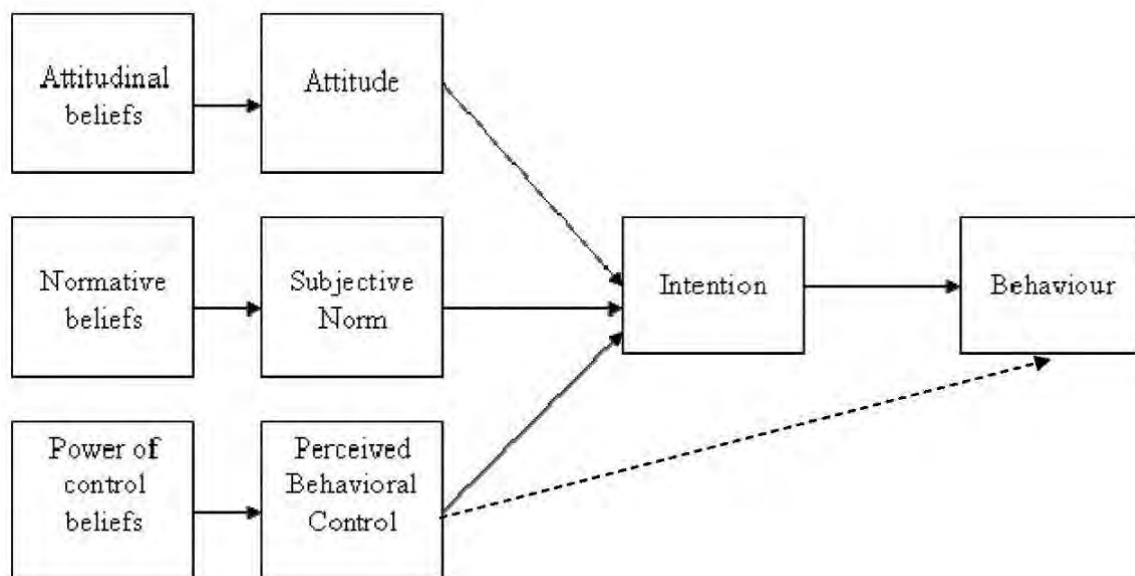


Figure 2.2: Theory of Planned Behaviour (Source: Armitage & Conner, 2001).

The perceived behavioural control as a factor or determinant is the major difference between the theories of Reasoned and Planned Behaviour. When explored against the background of this study, the effectiveness of Web 2.0 in marketing academic library services can only indicate the attitude and perceived subjective norms of users towards Web 2.0. This implies that, the positive or negative behaviour of users towards Web 2.0 as a marketing tool depends on their attitude and subjective norms.

The Theory of Planned Behaviour (TPB) is largely similar to TRA in that TPB assumes that individuals are rational decision makers. Consequently, individuals assess perceived behaviour control using a method similar to the expectancy-value model. The model also assumes behaviour is influenced directly to the extent that Perceived Behavioural Control reflects actual ability to perform the behaviour. TPB has been widely applied to understand the individual acceptance and use of different technologies (Harrison, Mykytyn, & Riemenschneider, 1997; Mathieson, 1991; Taylor & Todd, 1995b).

The theory has been effective in predicting acceptance and use of many different technologies (Harrison *et al.*, 1997). The TPB has been applied to a multitude of behaviours to better understand how individuals behave in the way they do (Sommer, 2011). Ajjan and Hartshorne (2008) used the theory of planned behaviour in a study to investigate faculty decisions to adopt Web 2.0 technologies and his findings inferred that subjective norm of students is a key factor that affects their acceptance; while Armitage and Conner (2001) on the other hand analysed 185 researches that used the theory of planned behaviour (TPB) from 1980 until 1997 and found that subjective norm was a weak variable for predicting behavioural intention.

Ruzzier, Hisrich and Antoncic (2006) also conducted a study that focused on internationalisation of small and medium-sized enterprises (SME) using TPB. The results of the study indicated that although the model considered a new construct, the perceived behaviour construct did not address any interactions between the constructs which made the model appear to be incomplete. Another limitation of the TPB model relied on the individual conducting a self-report of their attitude without any direct observation (Thrasher, Andrew, & Mahony, 2011). In a study of pre-service teachers, Teo and Lee (2010) using the TPB as a research model, found that attitude toward computer use and subjective norm have significant effect on behavioural intention to use technology, they further found that the same three

constructs had explained about 40% of the variance in the behavioural intention to use technology.

The TPB also overlooked emotional factors such as threat, fear, mood and feelings (Sheppard *et al.*, 1988). Ramdani (2008), claims that the TPB requires unique operationalization such as integration with other theories to enhance its predictive power. These criticisms of the TPB have made the model on its own inappropriate for this study but the construct of attitude towards an individual's acceptance and use of different technologies as depicted in Figure 2.2; is part of the model adapted for the present study.

2.4 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), an instrument to predict the likelihood of a new technology being adopted within a group or organisation was developed by Davis (1986) and Davis *et al.* (1989). Based on the Theory of Reasoned Action (TRA), TAM deals more specifically with prediction of the acceptability of information system. TAM is founded on the hypothesis that technology acceptance and use can be experienced in terms of a user's internal beliefs, attitudes, and intentions. Thus, it is possible to predict future use by applying TAM at the time that technology is introduced.

According to Ajzen and Fishbein (1980) in TRA and TAM behaviour is determined by the intention to perform the behaviour. Actual behaviour and intention as reported by Davis (1989), Fishbein and Ajzen (1975) have been found to be highly correlated. Davis (1989) reported that intention is determined by attitude towards the behaviour. TAM originally examined the impact of four external variables upon the actual usage of technology. These variables are perceived ease of use, perceived usefulness, attitude towards use and behavioural intention. Behavioural intention was used as both dependent and independent, with the dependent testing validity of perceived use and ease of use and the independent variable used to predict actual usage (Davis *et al.*, 1989; Davis, 1989).

The purpose of this model is to predict the acceptability of a tool and identify the modification which must be brought to the system to make it acceptable to users. The two major determinants advanced in this model are perceived usefulness and perceived ease of use. Perceived usefulness is the prospective user's subjective probability that using a specific application system will increase the user's performance within an organisational context. It relates to job effectiveness, productivity, and relative importance to one's job. Perceived ease of use on the other hand, refers to the degree to which the prospective user expects the target

to be free from effort, in terms of physical and mental effort as well as ease of learning (Davis *et al.*, 1989).

Davis (1989) observed that the attitude of an individual is not the only factor that determines the use of a system but it is also based on the impact which it may have on his performance. The theory posits that the intent to produce a certain behaviour depends on two basic determinants; the attitude toward behaviour and subjective norms (Roca, Chiu, & Martínez, 2006). Attitude according to Fishbein and Ajzen (1975) is an individual's positive or negative feelings (evaluative affect which refers to a person's liking of behaviour) about performing the target behaviour. They further stated that subjective norm, is the person's perception that most people who are important to him/her think he/she should or should not perform the behaviour in question. TAM was developed to find out the factors that influence computer adoption and "to provide a parsimonious theoretical explanatory model" (Davis *et al.*, 1989). As shown in figure 2.3, the model postulates that the use of an information system is not only determined by behaviour intention but also by a person's attitude towards its use and its perception of utility.

Venkatesh and Davis (2000) subsequently proposed a revised TAM, which did not include attitude towards use and incorporated additional variables such as experience and subjective norms. Although, variables such as experience, training, organizational support plays a significant role in the acceptance of information technology, it is interesting to note, that the research presented to validate TAM demonstrate that the link between the intention to use an information system and perceived usefulness is stronger than perceived ease of use (Davis, 1989). The TAM identifies perceived ease of use and perceived usefulness as key independent variables (Davis, 1989). Davis (1989) further stated that perceived ease of use influences perceived usefulness. This implies that the factor that influences most the use of an information system is perceived usefulness. The constructs are as shown in Figure 2.3.

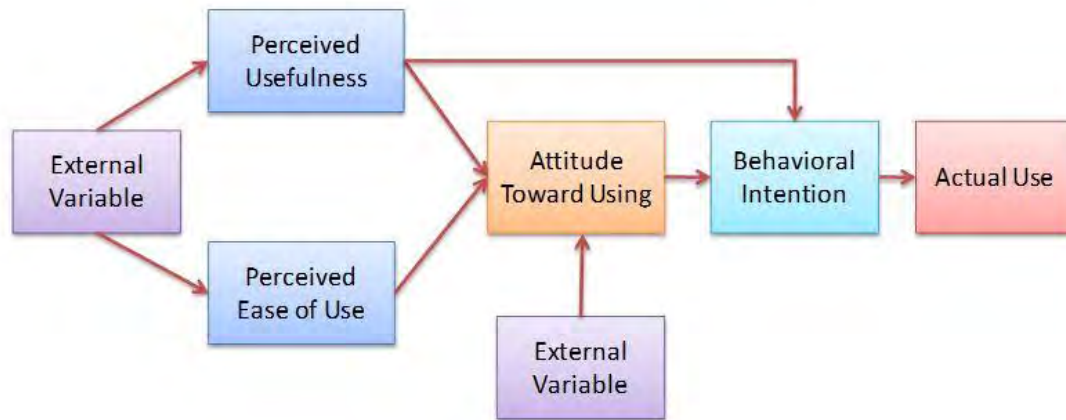


Figure 2.3: Technology Acceptance Model (Source: Davis *et al.*, 1989)

According to TAM, though variables such as training, skills and competence on how to use information resources (perceived ease of use) influences an individual's decisions to accept and use electronic information resources, it is the individual's belief (perceived usefulness) that these new resources will improve and benefit him that mostly influences his decision to accept or not to accept to use them.

The core ideology of the Technology Acceptance Model has remained unchanged since its inception. The Technology Acceptance Model and its revisions have been applied to a variety of technology such as business intranets (Horton, Buck, Waterson, & Clegg, 2001), text editors (Davis, 1989) and the web (Fenech, 1998). For instance, Venkatesh and Davis (1996) suggested that users' computer self-efficacy affects perceived ease of use both before and after hands-on use; while objective usability has an effect on perceived ease of use only after direct experience with the system. Control (computer self-efficacy and facilitating conditions), intrinsic motivation (computer playfulness), and emotion (computer anxiety) were found to affect perceived ease of use, in another study (Venkatesh, 2000).

Various studies including Adams, Nelson and Todd (1992); Hendrickson, Massey and Cronan (1993); Szajna (1994); Subramanian (1994); Chin and Todd (1995); Taylor and Todd (1995c); Igarria, Zinatelli, Cragg and Cavaye (1997); Riemenschneider, Harrison and Mykytyn (2003) have tested and support the model's validity and correctness. The TAM in most of these studies was able to explain a reasonable amount of variance in the actual use of the technology (Alshare, Grandon, & Miller, 2004). Venkatesh and Davis (2000) also, found that social influence processes (subjective norm, voluntariness, and image) and cognitive

instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use) affect user acceptance of systems. Generally, the results of applying the Technology Acceptance Model are often accepted as accurate predictors of adaptation and usage because it scores very high against whatever measure is used, whenever it is validated for internal consistency (Davis, 1989; Szajna, 1994).

Unlike TRA, the final conception of TAM does not include the attitude construct; this is to better explain intention parsimoniously (Tan, 2013). Chen (2013) also observed TAM unlike TPB, is designed with different contents according to various situations. Furthermore, there is no social variable and control variable included in TAM, because Davis (1989) contends social variables and control variables show no remarkable associations with behaviours like the effect caused by usefulness.

TAM has been widely applied to a diverse set of technologies to measure acceptance, used to predict and explain user behaviour of information technology acceptance and usage (Alikilic & Atabek, 2012; Davis *et al.*, 1989; Oshiyanki, Cairns, & Thimbleby, 2007; Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003). In the field of Information Systems, researchers have widely used the TAM to study the adoption of various technologies and it has arguably become the most influential theory in the IS field (Li, 2008, 2010). The TAM has also been applied to numerous online applications such as high-speed data services, 3G adoption and internet usage in the context of customer behaviour (Chong, Darmawan, Ooi, & Lee, 2010; Pagani, 2006; Porter & Donthu, 2006).

Researchers over the years have employed and examined the various components, settings, and applications of TAM in areas such as e-learning (Park, 2009), tourism (Usoro, Shoyelu, & Matthew, 2010), library arena (Booker, Dettlor, & Serenko, 2012; Kim & Abbas, 2010), perceived system performance (Sun, 2012), personal innovativeness (Aharony, 2013).

The theory of acceptance model enabled organisations to consider the effects of external variables concerning the causal relationship between perceived usefulness, perceived ease of use, and behavioural intention (Wu, 2011). Zhou, Dai and Zhang (2007) developed a new model based on TAM called online shopping acceptance model (OSAM) to study online shopping behaviour. Echeng and Usoro (2014) examined user acceptance and adoption of Web 2.0 technology tools for learning among populations in Nigeria and Scotland. It aimed to give insight into the very low use of these tools and to proffer key related factors that should be borne in mind by policy makers and system developers who aim to encourage

increased use of these tools in teaching and learning. The study also revealed low motivation in Nigeria to the use of these tools for academic purposes.

From the aforementioned literature, the TAM has received considerable amount of attention since its inception, showing that TAM is a robust and powerful model for evaluating technologies and making comparisons between user groups of a particular technology (Farn, Fan, & Chen, 2006). However, TAM has two limitations. First, since the original model was intended to be general and parsimonious, it pays little attention to identification of antecedent variables that could influence PEOU and PU (Dishaw & Strong, 1999; Park, 2010). Furthermore, even though the model is useful in identifying factors that influence people's technology acceptance, the model cannot fully explain why people accept and use a particular technology (Park, 2010). The TAM alone will be inappropriate for the study on the effectiveness of Web 2.0 to market academic library services due to the criticisms and limitations of the model.

2.5 Combined Technology Acceptance Model and Theory of Planned Behaviour (CTAM &TPB)

The CTAM and TPB is the combination of the best of the TAM and the TPB models such as ~~the~~ "the predictors of the TPB with perceived usefulness from the TAM to provide a hybrid model is called Combined TAM and the TPB (CTAM & TPB)" (Mathieson, Peacock, & Chin, 2001). Taylor and Todd (1995a) opine that TAM failed to include factors of society and control that have been proven to affect actual behaviours. The CTAM and TPB consist of four major factors namely attitude, perceived behavioural control, subjective norms and perceived ease of use. Taylor and Todd (1995a) developed a hybrid model by combining the predictors of TPB with the constructs of perceived usefulness and ease of use from TAM.

The empirical results by Taylor and Todd (1995c) show that C-TAM-TPB has high fitness in explaining users' behaviours of using new technology. From the analysis of grouping users based on experience, C-TAM-TPB shows quite good fitness on both experienced and inexperienced users. C-TAM-TPB focuses on the acceptance extent to new technology commodities (Fetscherin, Lattemann, & Lang, 2008; Taylor & Todd, 1995a). According to the research conducted by Taylor and Todd (1995c), from the empirical results with students using the facilities of computing centre resources, it was found that the C-TAM-TPB integrated by both TAM and TPB comes with excellently high fitness to explain user behaviours for using new technologies. From past C-TAM-TPB researches, perceived ease of

use causes positive influence on perceived usefulness. Both perceived usefulness and perceived ease of use cause positive influence on attitudes (Chen, 2013).

In general, these theories (TAM and TPB) imply that behaviour is determined by the intention to perform the behaviour. Intention itself is determined by the attitude towards the behaviour. TAM's fundamental constructs do not fully reflect the specific influences of technological and usage-context factor that may alter user's acceptance; also factors affecting the acceptance of a new IT vary with technology, target users and context (Safeena, Date, Hundewale, & Kammani, 2013); as Davis (1989) noted that future technology acceptance research needs to address how other variables affect usefulness, ease of use and acceptance. Hence various technology acceptance models with TAM as base have been evolved.

The TAM and TPB have been widely applied in examining the acceptance in various information system (IS) contexts (Riemenschneider *et al.*, 2003; Taylor & Todd, 1995c; Wu, Wang, & Lin, 2007). Lee (2009) combined the TAM with TPB, perceived risk and perceived benefit to understand the adoption of internet banking. Ervasti and Helaakoski (2010) have developed a model based on TAM and TPB to understand mobile service adoption which states that perceived useful is the strongest factor in adoption. A study combining the TAM and TPB examined the influence of perceived ease of use, perceived usefulness, attitude, subjective norm and perceived behavioural control of Internet banking. As expected, the results supported the hypothesis that the constructs of the model have positive effect on the use of Internet banking. The result of the study shows that perceived ease of use, perceived usefulness, attitude, subjective norm and perceived behavioural control are the important determinants of online banking adoption (Safeena *et al.*, 2013).

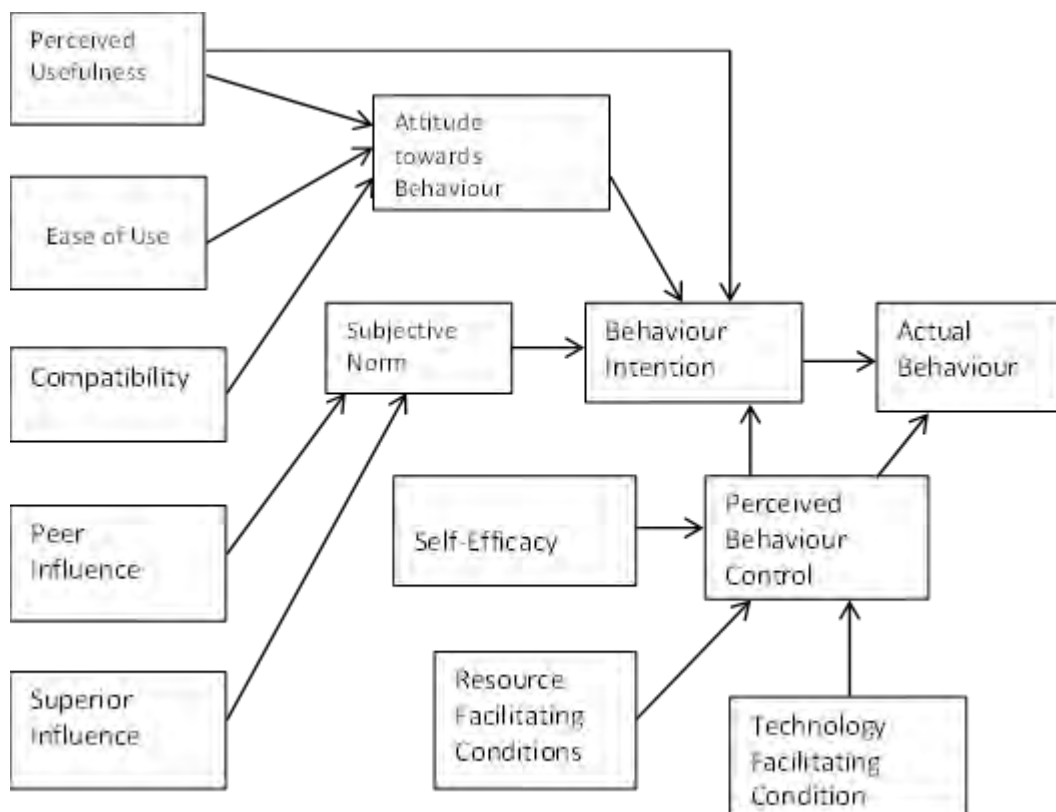


Figure 2.4: Combined TAM and TPB (Source: Taylor & Todd, 1995a)

Wu, Li, and Fu (2011) combined TPB and technology acceptance model to examine mobile healthcare services from the perspective of professionals. Their study argues that there are two other potential linkages between perceived behaviour control and behavioural intention, and subjective norm and behaviour intention to use. The model has also been used to explain the acceptance of internet purchasing (Sentosa & Mat, 2012), by integrating TPB and TAM the study examined the relationships between attitude, subjective norm, perceived behaviour control, perceived usefulness and perceived ease of use toward intention and Internet purchasing behaviour.

Deng, Mo and Liu (2014) in a study on the –comparison of the middle-aged and older users‘ adoption of mobile health services in China’ revealed that perceived value, attitude, perceived behaviour control, and resistance to change can be used to predict intention to use mobile health services for the middle-aged group. The results also showed that perceived value, attitude, perceived behaviour control, technology anxiety, and self-actualization need, positively affected the behaviour intention of older users; and subjective norm and perceived

physical condition showed no significant effects on the behaviour intention to use mobile health services for the two groups.

TAM focuses more on technological aspect and its strengths are its parsimony and high explanatory power. However, it lacks consideration of the effects of individual and organisational factors in the adoption process. TPB is used to explain the behaviour of technology adoption by taking into consideration of the individual role and organisational system in this process (Wu *et al.*, 2011). However, the constructs of the C-TAM and TPB has been synthesised and incorporated in the model adopted for the study.

2.6 Diffusion of Innovations Theory (DOI)

One popular account to explain and predict the rate of IT innovation adoptions is Diffusion of Innovations theory (DOI) as propagated by Rogers (1995). Diffusion of Innovations postulates the theory, which describes the patterns of adoption, explains the mechanism, and helps predict whether a new invention will be successful. The DOI draws upon rational theories of organisational life adopted from economics, sociology and communication theory. It develops predictive account of the diffusion phenomenon that supposedly helps technology implementers advance the diffusion of selected technologies. The theory has been used as the theoretical basis for a number of information system research projects. It has also been observed that, the adoption and diffusion of innovations is a subject that has been widely studied across a broad spectrum of disciplines, including social science, marketing, engineering and management (Normalini, Ramayah, & Kurnia, 2012). Rogers' diffusion of innovations theory as asserted by Medlin (2001) and Parisot (1995) is the most appropriate for investigating the adoption of technology in higher education and educational environments.

Rogers (1995) defines DOI as the process by which an innovation is communicated through certain channels over time among the members of a social system. Diffusion is a special type of communication concerned with the spread of messages that are perceived as new ideas. Adoption is a decision of full use of an innovation as the best course of action available and rejection is a decision not to adopt an innovation (Rogers, 2003). The four main elements in the diffusion of new ideas are the innovation, communication channels, time, and the social system.

Innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. The characteristics of an innovation, as perceived by the members of a

social system, determine its rate of adoption. Why do certain innovations spread more quickly than others? The characteristics which determine an innovation's rate of adoption are;

- Relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, but social prestige, convenience, and satisfaction are also important factors.
- Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. An idea that is incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible.
- Complexity is the degree to which an innovation is perceived as difficult to understand and use. Some innovations are readily understood by most members of a social system; others are more complicated and will be adopted more slowly.
- Trialability is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on the instalment plan will generally be adopted more quickly than innovations that are not divisible.
- Observability is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it (Rogers, 2003).

In conclusion, innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, observability, and less complexity will be adopted more rapidly than other innovations that lack these features.

The second main element in the diffusion of new ideas is the communication channel. Communication is the process by which participants create and share information with one another to reach a mutual understanding while communication channel is the means by which messages get from one individual to another. Most individuals evaluate an innovation, not because of scientific research by experts, but through the subjective evaluations of near-peers who have adopted the innovation.

The third main element in the diffusion of innovations of new ideas is time. The time dimension is involved in diffusion in three ways:

- The innovation-decision process is the mental process through which an individual (or other decision-making unit) passes from first knowledge of an innovation to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.
- Innovativeness is the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system and
- The rate of adoption and the relative speed with which an innovation is adopted by members of a social system. The rate of adoption is usually measured as the number of members of the system that adopt the innovation in a given time period (Rogers, 1995).

The fourth main element in the diffusion of new ideas is the social system, defined as a set of interrelated units that are engaged in joint problem-solving to accomplish a common goal. The members or units of a social system may be individuals, informal groups, organisations, and/or subsystems. The social system constitutes a boundary within which an innovation diffuses (Rogers & Scott, 1997). Lyytinen (1991), states that a typical model consists of sequential adoptions and implementation stages. These stages help predict the innovation of diffusion over time and space. Given that decisions are not authoritative or collective, each member of the social system faces his/her own innovation-decision, Rogers (1995) proposes that there are five distinct stages to the process of diffusion. The stages are;

- Knowledge – person becomes aware of an innovation and has some idea of how it functions,
- Persuasion – person forms a favourable or unfavourable attitude toward the innovation,
- Decision – person engages in activities that lead to a choice to adopt or reject the innovation,
- Implementation – person puts an innovation into use, more information is sought,
- Confirmation – person evaluates the results of an innovation-decision already made.

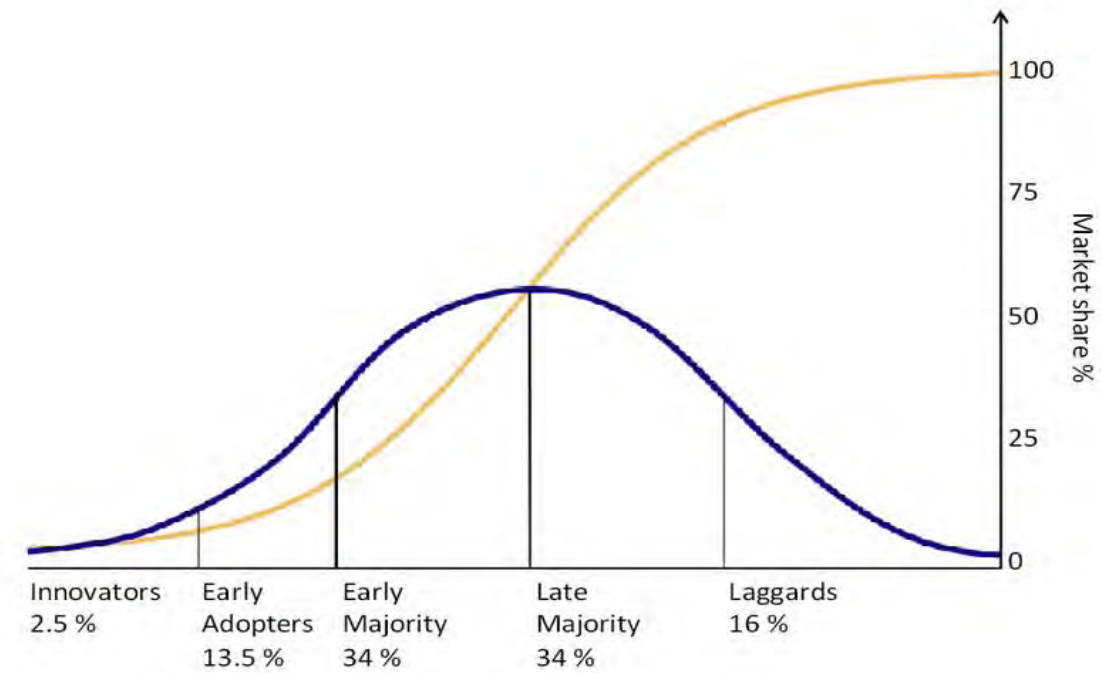


Figure 2.5: Diffusion of Innovations curve (Source: Rogers, 2010)

Although, innovators are eager to become acquainted with new ideas and practices, the Diffusion of Innovations theory has shown that the large majority is sceptical and cautious of novelties. The eagerness to adapt an innovation can be described on a continuum from innovators to laggards (Rogers & Scott, 1997). Risk-taking, charismatic, achievement oriented, enduring, dedicated and confident persons have dispositions which make them likely to be innovators (Howell & Higgins, 1990). While the other extreme are the laggards who resist adopting an innovation until very late in the diffusion process (Minishi-Majanja & Kiplan'at, 2005). In between the innovators and laggards are the early adopters, early majority, and late majority. DOI postulates that many different outcomes are of interest in technology adoption, including the initial decision to use the system and the continued or sustained use of the innovation. DOI is based on the assumption that people do not change, but the innovations themselves. The theory explains the adoption of innovative practices by a group or organisations (Agarwal & Prasad, 1997). Conferences, workshops and Web sites are essential information sources for innovators in their quest for the latest break-through (Jacobsen, 1998).

In summary, DOI can be described as an innovation (technology) which is easily recognisable and appeals to a few individuals (innovators) who make the innovation known

to a few individuals (early adopters) and they in turn makes it known and influences a larger group (early majority) and subsequently to the late majority, then finally to a few laggards. Innovation as shown on the curve, indicates that an innovation spreads over time like an s-shaped curve; a new product or idea is accepted sluggishly but over time grows, stabilises and eventually declines. It implies that innovators readily sought information widely, enthusiastically and used many different sources of information. Adopters are vulnerable to social pressure and authority, prone to conformity and doubted their abilities. They are more likely to adapt to innovations.

Several studies have used the DOI. Jantz (2012) in the study on the innovation in academic libraries: an analysis of university librarians' perspectives highlighted the differences and similarities perceived by university librarians as they commented on the many dimensions of innovation such as leadership, organisational structure, professional values, and the characteristics of the innovation itself. Isleem (2003) used the DOI to examine the level of computer use for instructional purposes by technology education teachers in Ohio public schools by studying the relationships between the level of computer use and selected factors; expertise, access, attitude, support, and teacher characteristics. The findings showed that technology education teachers use more mainstream computer applications than computer specialised applications. Although, Isleem (2003) found teachers' perceived expertise, perceived access to computers, and perceived attitude toward computers as the significant predictors of the level of computer use. He emphasised in his study that providing training is a main strategy to increase computer use. Chigona and Licker (2008) used DOI on their study on the adoption patterns of communal computing facilities (CCFs) among the urban poor in Cape Town, South Africa, to investigate who uses them (adoption) and for what reason. Their study showed that DOI was able to explain most of the adoption decisions of the Smart Cape Access Project.

Agarwal, Xu and Poo (2011) posit that one's comfort level in using the system, system-knowledge, or computer-efficacy would affect use of the system/tool. Kim and Abbas (2010) had earlier compared academic library and user utilisation of Library 2.0 features in the KM perspective and found that the adoption rate greatly differs for each Library 2.0 application. Some of the library-initiated knowledge transfer functions (e.g. RSS feeds, podcast) are widely adopted among academic libraries, while some of the user-initiated functions (e.g. Tagging, Wiki) are at a burgeoning stage. Hence, McEwen and Scheaffer (2012) call for a

more welcoming, complementary environment for mobile phones and the mobile Internet in university research libraries.

Although, DOI has been popular and replicated in several studies (Hultman, 2007; Looi, 2005), over the ensuing decades, it has faced several criticisms, especially those that question its applicability in complex and network-based environments (Christensen, 1997; Christensen, Anthony, & Roth, 2004; Lyytinen & Damsgaard, 2001; Mahajan & Peterson, 1985). It has been argued that the kind of adoption process that Rogers (1995) describes is binary, linear, and has a simplistic nature implying that the adoption and use of technology is easy (Hultman, 2007). Indeed, when applied to the global spread of ICTs, the theory was not a perfect fit. Computers and the Internet were not adopted in a typical S-shaped curve (Christensen, 1997).

As such, Christensen (1997), labelled such technologies as ‘disruptive’, that is, those that overtake the marketplace but do not follow standard notions of adoption (Christensen, 1997). Voluntariness of adoption may be an important moderating variable in practitioner adoption of new technologies, as discussed in detail by Venkatesh *et al.* (2003). Findings on ‘examining how public relations practitioners actually are using social media’ by Wright and Hinson (2009) show that in some situations social media are not particularly welcomed by practitioners if these newly introduced options mean ceding control.

The DOI seems to be general in approach because it emphasises the way new dimensions of innovations are communicated and spread over time within a social system. Another limitation of the DOI is that it does not take into account an individual's resources or social support to adopt the new behaviour (or innovation) (Al-Jabri & Sohail, 2012).

2.7 Motivational Model (MM)

Motivation is the process to push an individual to complete desired goals or work or one's efforts or energy to meet certain needs or achieve certain goals (Herbert, 1976). Using motivation as a point of view, Davies *et al.* (1992) discussed users' technology acceptance behaviour issues and developed Motivational Model (MM) as a technology acceptance behaviour model to explore users' motivation of utilising information system. MM claims that behavioural intention of using new technology will be affected by users' internal motivation and external motivation. Internal motivation is the perception that users will want to perform an activity for no apparent reinforcement other than the process of performing the activity; external motivation refers to the perception that users will want to perform an

activity –because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions”. With information system italicisation characteristics, enjoyment of information system is internal motivation, and perceived usefulness serves as users’ external motivation (Davis *et al.*, 1992:1112).

Davis *et al.* (1992) introduced perceived fun or perceived enjoyment as intrinsic motivational factors, with perceived usefulness as an extrinsic motivational factor, which they called the MM. The MM by Davis *et al.* (1992) posits that Internet users' behaviour differ depending on whether their motivation is extrinsic or intrinsic. Extrinsic motivation is defined as the perception that users want to perform an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions (Davis *et al.*, 1992). Davis *et al.* (1992), application of the motivational theory explains new technology adoption and use. Perceived usefulness, perceived ease of use and subjective norm are examples of extrinsic motivation.

Intrinsic motivation on the other hand, relates to perceptions of pleasure and satisfaction from performing the behaviour (Vallerand, 1997). Users want to perform an activity –for no apparent reinforcement other than the process of performing the activity per se” (Davis *et al.*, 1992:1112). When individuals are intrinsically motivated, they freely and with interest participate in activities without expecting any reward. Behaviours that are intrinsically motivated emerge from the self. Intrinsically motivated behaviour arises from people’s need to feel competent and self-determining in dealing with their environment (Rao, 2007). According to Malone (1981), intrinsic motivation is triggered by challenge, curiosity, control and fantasy. Computer playfulness and enjoyment are examples of intrinsic motivation (Davis *et al.*, 1992; Venkatesh, 2000).

A number of studies have adapted the motivational theory to specific contexts and in the field of information systems (Ayeh, Au, & Law, 2013). Empirical results from Davis *et al.* (1992) shows that perceived usefulness and enjoyment have significant influence on users’ utilisation of new technology in behavioural intention. Influence of perceived usefulness on users’ behavioural intention far exceeds that of enjoyment on users’ behavioural intention. In technology-mediated environments, Davis *et al.* (1992) proposed that both extrinsic and intrinsic motivation could impact users’ interactions with technologies. Extrinsic motivation in technology-mediated environments refers to the perceived importance of using

technologies in relation to external awards or incentives. Intrinsic motivation, in contrast, focuses on the enjoyment of using technologies.

Venkatesh and Speier (1999) used the variables of MM to discuss influence of users' mood in accepting an information system in training on their internal and external motivations. The results show that moods do not have significant influence on external motivation. However, positive moods have significant influence on internal motivation and users' behavioural intention in the short time. Negative moods have significant influence on both short-and long-term internal motivation and users' behavioural intention.

Using the MM theory, Mallaiah and Yadapadithaya (2009) investigated self and organisational motivating factors affecting productivity among academic librarians in the state of Karnataka, India. The study, which collected data through a questionnaire survey from 188 academic librarians, found that self-actualisation was the principle factor that concerned respondents. Firpo, Kasemvilas, Ractham, and Zhang (2009) also reported that Web 2.0 users' participations are mostly motivated by extrinsic goals (e.g. privacy, convenience and software reliability). Similarly, Shin (2010a) investigated motivations for utilising social networking sites from the U.S and South Korea. The results revealed that users from both countries believe social networking sites are useful and entertaining. Users in the U.S. utilise social networking sites because of extrinsic motivation but users in South Korea utilise them due to intrinsic motivation.

Ola and Adeyemi (2012) investigated the motivation and job satisfaction of mid-level academic librarians at the University of Ibadan in Nigeria. Through use of questionnaire survey for data collection, findings showed a modest overall level of motivation but with major dissatisfaction about salaries which led to a lack of morale at work. Intrinsic and extrinsic motivation develops personal behaviour which can in turn affect evaluation of choice, goals, and achievements. A similar study was done to investigate effective motivation of paraprofessional staff in academic libraries in Nigeria by James (2011) who used Maslow's theory to investigate strategies for motivation of paraprofessional library staff. He asserted that all organisations regardless of size, sector, or industry require motivated employees to function effectively. The study revealed that motivated employees are contented, dedicated, and work enthusiastically.

Fetscherin, Lattermann and Lang (2008) conducted an empirical study in Second Life to investigate members' intentions to participate in the virtual world and found that community

factors such as communication, collaboration, and cooperation play a pivotal role as a means of influencing user intention and the acceptance of Virtual Worlds. Thus, motivation to use Web 2.0 technology tools for marketing is likely to relate to the attitude of the users, and it should also be related to behavioural intention (Fetscherin *et al.*, 2008).

Ajuwon and Popoola's (2014) study to determine the influence of motivational factors: perceived ease of use (PEU), perceived enjoyment (PEJ) and perceived usefulness (PU) on the utilisation of Internet health information resources among resident doctors in tertiary health-care institutions in Nigeria, showed that intrinsic motivators (PEU and PEJ) are the main factors influencing the usage of Internet health information resources by resident doctors in south-west Nigeria.

Huanga, Hood and Yoo (2014) explored college students' motivational and outcome processing based on the theory of motivation, volition and performance. Participants were recruited from an undergraduate teacher education programme in the USA who reported their perceptions via online surveys after using Web 2.0 applications for a major course project. Findings, based on 224 valid cases revealed that Web 2.0 applications might be effective in stimulating learners' attention and supporting their confidence during the learning process. The findings further suggested that learners' motivational processing could impact learners' outcome processing that leads to continuous usage of Web 2.0 applications for learning.

Another study by Omar, Rashid, and Majid (2014) investigated the motivations for the use of social networking sites on quality of work among staff in academic institutions in Malaysia. The study found that the use of SNS can help to increase knowledge on the social development of staff including their increased use of the Internet and SNS. Giesbers, Rienties, Tempelaar, and Gijselaers (2013) explored the relationship between available tools used, student motivation, participation, and performance on a final exam in the context of a faculty summer course in economics. In line with their assumptions, they found some support for the expected association between autonomous motivation and participation in web-videoconferences as well as between autonomous motivation and the grade on the final exam. Students' tool use and participation were significantly correlated with each other and with exam scores, but participation appeared to be a stronger predictor of the final exam score than tool use.

Hart (2012) observed that many workers are using social networking tools to address their own learning and performance needs in the workplace. These workers share a great deal in

common in terms of motivations and learning behaviour. They constantly strive to improve their productivity and solve workplace problems through asking questions, and sharing ideas with friends and colleagues in their online social networks. Most of the criticisms of MM lie in its inability to demonstrate that all employees can ever be equally motivated. Critics, however, indicate that the priority needs of individuals vary from one individual to another and one environment to another, a gap or a shortcoming that Maslow did not take into account while ranking the pyramid of human needs. Other judgment also indicated that the theory is more appropriate in the developed countries where most of workers satisfy their lower-level needs and most of upper-level needs, unlike the case in the developing countries which might suggest less satisfaction of the minimal lower-level needs (Pulasinghage, 2010).

2.8 Model of PC Utilisation (MPCU)

The Model of PC Utilisation (MPCU) is a theory of attitudes and behaviour with competing perspective to TRA and TPB. Triandis (1980) proposed the theory to incorporate many of the same concepts and constructs TRA and TPB but also modifies and redefines them. It makes a distinction between cognitive and affective components of attitudes, stating that beliefs belong to the cognitive component of attitudes (Triandis, 1977, 1980). He argues that behavioural intentions are determined by feelings people have toward the behaviour (affect), what they think they should do (social factors), and by the expected consequences of the behaviour. Behaviour, in turn, is influenced by what people have usually done (habits), by their behavioural intentions, and by facilitating condition. Behaviour therefore is determined by what people would like to do (attitudes), what they think they should do (social norms), what they have usually done (habits), and by the expected consequences of their behaviour (Thompson *et al.*, 1991:126).

Thompson *et al.* (1991) refined Triandis' model to predict PC utilisation behaviour. The major constructs in the model and their definitions are:

- Job fit: ~~the~~ "the extent to which an individual believes that using [a technology] can enhance the performance of his/her job" (p. 129).
- Complexity: ~~the~~ "the degree to which an innovation is perceived as relatively difficult (or easy) to understand and use" (p. 128).
- Long-term Consequences: ~~incorporate~~ "the basic premise that individuals evaluate their actions in terms of potential rewards and base their choices of behaviour on the desirability of the rewards (outcomes that have a pay-off in the future)" (p. 129).

- Affect Towards Use: –feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated with an individual with a particular act” (p. 127).
- Social Factors: –the individual's internalisation of individual norms, roles, and values that influence the individual's conceptions of behaviours that are appropriate, desirable, and morally correct in specific social situations” (p. 126).

Facilitating Conditions: objective factors that make an act easy (or difficult) to do. For instance, an individual that did not have easy access to a PC would find it much more difficult to use (p. 129). Figure 2.6 presents the Model of PC Utilisation.

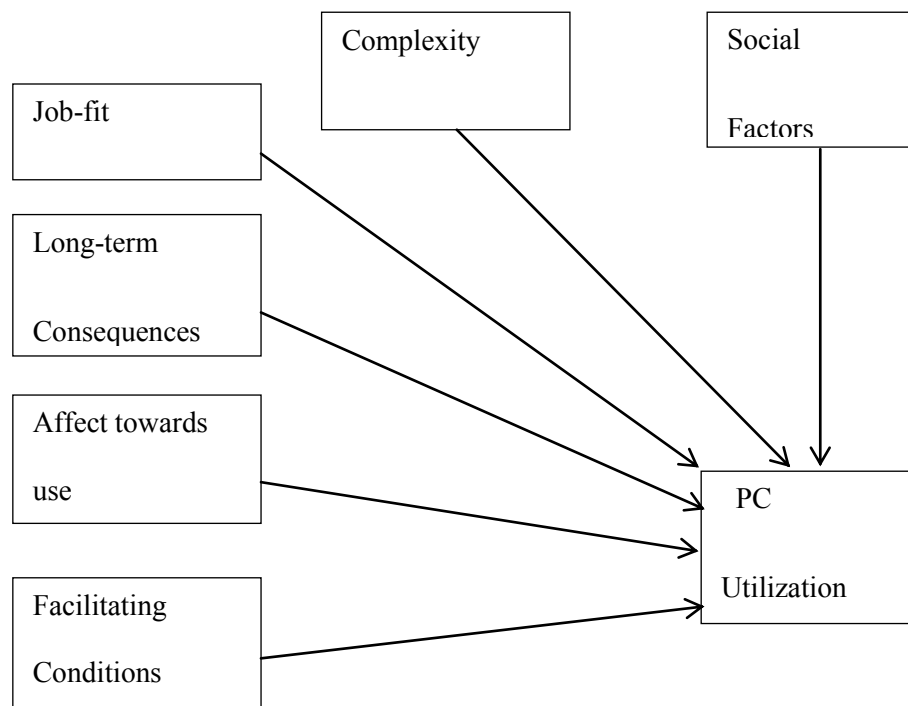


Figure 2.6: Model of PC Utilisation (Source: Thompson *et al.*, 1991)

Hamner and Qazi (2009) assessed the use of personal computer technology (PCT) in public organisations of developing countries in South Asia, particularly in Pakistan. The study proposed additional external factors such as organisational culture and individual factors (e.g. –Level of Education” and –Duration of Training”) and belief factors such as perceived personal utility. Eze (2009) conducted an online survey to explore which factors influence the utilisation of Web 2.0 applications of European undergraduate and graduate students for learning. A total of 285 participants participated in the online survey from the Netherlands,

Great Britain, and Ireland. This study reported that culture is essential when users utilise Web 2.0 applications for learning.

Thompson *et al* (1991), Al-Queisi (2009) examined the impact of the six factors of the MPCU on behaviour at the workplace using a sample of professional managers who use PCs in their jobs without restriction. The findings showed “that social factors, complexity, job fit, and long-term consequences had a significant effect on PC use, while affect (individual’s feeling factor) and facilitating conditions have shown no such influence” (Al-Queisi, 2009:102). The study further indicated that PCs are tools by managers so the affect aspect does not apply here.

Selamat and Jaffar (2011) examined the adoption and acceptance of information technology from the perspective of Malaysian bankers. Among others, the regression result of the study appeared to suggest that perceived usefulness and management support and external computing support were found to be the most influential factors in determining microcomputer usage among bankers in Malaysia.

The Model of PC Utilization is only a subset of Triandis’ model of value, attitude and behaviour, that is, behaviour is determined by peoples’ beliefs, affect toward the object (cognitive and affective components of attitude), by what people think they should do (social norms), and by the expected consequences of the behaviour. Facilitating conditions and habit are also good predictors of behaviour. The MPCU is best used to understand and explain computer usage behaviour in a voluntary environment (Al-Queisi, 2009; Alatawi, Dwevedi, Williams, & Rana, 2012).

2.9 Social Cognitive Theory (SCT)

Social cognitive theory (SCT) initially developed with an emphasis on the acquisition of social behaviours, refers to a psychological model of behaviour that emerged primarily from the work of Albert Bandura (Bandura, 1977, 1986). SCT emphasises that learning occurs in a social context and that much of what is learned is gained through observation. SCT has been applied broadly to such diverse areas of human functioning as career choice, organisational behaviour, athletics, and mental and physical health. The TPB, TAM, and DOI assume that there are only unidirectional causal relationships among the major variables in their models while, the SCT model, in contrast has multi-directional causal relationships among the model’s major variables.

SCT rests on several basic assumptions about learning and behaviour. One assumption concerns triadic reciprocity, or the view that personal, behavioural, and environmental factors influence one another in a bidirectional, reciprocal fashion. That is, a person's on-going functioning is a product of a continuous interaction between cognitive, behavioural, and contextual factors (Denler, Wolters, & Benzon, 2013). A closely related assumption within SCT is that people have an ability to influence their own behaviour and the environment in a purposeful, goal-directed fashion (Bandura, 2001). It incorporates environmental factors, personal elements, and behaviours. Bandura (1986) suggests that environmental factors, personal factors (in the form of cognitive factors, affective factors), and behaviours are determined reciprocally.

SCT does not deny the importance of the environment in determining behaviour, but it does argue that people can also, through forethought, self-reflection, and self-regulatory processes, exert substantial influence over their own outcomes and the environment more broadly (Denler *et al.*, 2013). An individual's cognitive competence influence the behaviour of using a technology, and the successful interactions with the technology also influence the cognitive perceptions (Compeau, Higgins, & Huff, 1999).

Bandura (2005) emphasised the successes of social cognitive theory by focusing on the concepts of the model such as:

- Self-efficacy: the judgment of one's ability to use a technology to accomplish a job or task;
- Outcome expectations: reflect individuals' beliefs about what consequences are most likely to ensue if a behaviour is performed; and
- Affect: affect is an individual's liking or feelings for a behaviour (for instance, Web 2.0 tools use).

Another assumption within SCT is that learning can occur without an immediate change in behaviour or more broadly that learning and the demonstration of what has been learned are distinct processes. One reason for this separation is that SCT also assumes that learning involves not just the acquisition of new behaviours, but also of knowledge, cognitive skills, concepts, abstract rules, values, and other cognitive constructs. This division of learning and behaviour is a shift from the position advocated by behavioural theories that defined learning stridently as a change in the form or frequency of behaviour (Denler *et al.*, 2013).

SCT posits that self-efficacy influences both personal and performance-related outcome expectations (Compeau *et al.*, 1999). Outcome expectations according to Compeau and Higgins (1995), including personal and performance-related ones are major cognitive factors in influencing users' behaviour. Personal-related outcome expectations are concerned with individuals' esteem and sense of accomplishment. Performance-related outcome expectations are concerned with job-related outcomes. Affect and anxiety on the other hand, are the two affective factors. Affect refers to an individual's liking for a particular behaviour (for instance computer use). Anxiety refers to an individual's anxious or emotional reaction in performing behaviour like using a computer).

The concepts of social modelling and self-efficacy are significantly useful for the task of studying how individuals learn and adopt new communication and information behaviours as a result of availability (Bandura, 1977).

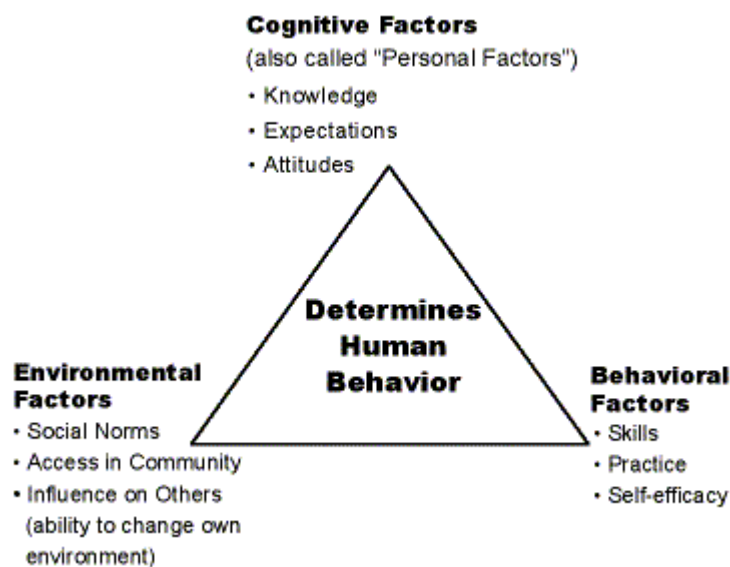


Figure 2.7: Social Cognitive Theory (Source: Bandura, 1977, 1986)

Cho, Demei and Laffey (2010:299) examined the extent to which college student engagement in self-regulated learning behaviours contributed to perceptions of peer and instructor presence in an online learning environment where courses were delivered totally online using a learning management system. Specifically, perceptions of peer and instructor presence were conceptualised as students' ability to "project one-self to others emotionally and socially" and perceptions of social presence were conceptualised as students' feelings of belongingness

within a community. Students completed questionnaires regarding their self-regulation and perceptions of peer and community presence. The results revealed that self-regulation predicted peer social presence, instructor social presence, sense of connectedness, and sense of learning.

Scholars have criticised the model by observing that SCT places too much emphasis on environmental predictors, little focus on cognition, and too little attention to individual variation, developmental changes, therefore it is too mechanical (Dombeck, 2008; Nevid, 2012).

2.10 Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory Acceptance and Use of Technology model (UTAUT), a model developed by Venkatesh, *et al.* (2003), synthesised from eight existing models of use of technology that include Theory of Reasoned Action (TRA); Theory of Planned Behaviour (TPB); Technology Acceptance Model (TAM); a combination of Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB) Model (C-TPB-TAM); Diffusion of Innovation Theory (DOI); Motivational Model (MM); Model of PC Utilization (MPCU); and Social Cognition Theory (SCT) (Oshlyansky et al., 2007). Venkatesh, *et al.* (2003) formulated the UTAUT, by integrating the fragmented constructs in the eight models into a unified theoretical model and hypothesised that performance expectancy, effort expectancy, social influence and facilitating conditions can be significant in the determination of crucial moderators as age, gender, experience and voluntariness of use.

The four major constructs that determine technology acceptance and use in the UTAUT model and how they are related to similar variables in the eight models are:

- Performance Expectancy (PE): the degree to which an individual believes that using the system will help him/her to attain gains in job performance. The constructs in the other models that pertain to performance expectancy are perceived usefulness (TAM, and combined TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (DOI), and outcome expectancy (SCT). This construct, within each individual model, was the strongest predictor of intention and remained significant at all points of measurement in both voluntary and mandatory settings;
- Effort Expectancy (EE): the degree of ease associated with the use of the system. The constructs in the other models that capture the same concept are perceived ease of use (TAM), and complexity (DOI and MPCU). The construct in each individual model

was significant in both voluntary and mandatory settings, and as expected from the literature was significant only during the post-training measurement;

- Social Influence (SI): the degree to which an individual perceives that important others believe he or she should use the new system. Similar constructs are represented in existing models: subjective norms (TRA, TAM2, TPB/DTPB, and combined TAM-TPB), social factors (MPCU), and image (DOI). The comparison between models found that this construct behaved similarly; it is insignificant in voluntary contexts and becomes significant when use is mandatory. The literature explained that in mandatory contexts the effect is attributed to compliance and appears to be important only in the early stages of individual experience and when rewards/punishment are applicable; in contrast, social influence in voluntary contexts operates by influencing perceptions about the technology (what is known as internalisation and identification); and
- Facilitating Conditions (FC): the degree to which an individual believes that an organisational and technical infrastructure exists to support use of the system. This definition captures three different constructs in existing models: perceived behavioural control (TPB/DTPB and combined TAM-TPB), facilitating conditions (MPCU), and compatibility (DOI). The comparison between models revealed that the relationship between intention and this construct in each model is similar in both voluntary and mandatory settings in the first training period but such influence disappears in the second period (one month after implementation). Based on the literature, when both performance expectancy and effort expectancy constructs are present, facilitating conditions become insignificant; and consistent with TPB/DTPB, facilitating conditions are also direct antecedents of usage (an attribute found also in MPCU). This effect is expected to increase with experience with technology as users find multiple avenues for help and support (Al-Queisi & Al-Abdallah, 2013; Venkatesh *et al.*, 2003).

According to Venkatesh *et al.* (2003), the effect of these four constructs is influenced by four other variables:

- Age: the degree to which the age of an individual affects their use of a new system;
- Gender: the extent to which if being a female or male makes it easy to use a new system;

- Experience: the degree of use over time with gaining experience in the use of a system; and
- Voluntariness: the degree the system is used voluntarily.

Two of the constructs of UTAUT are like TAM constructs: PE can be mapped to perceived usefulness (PU) whereas EE can be mapped to perceived ease of use (PEOU); while the remaining two constructs (SI and FC) are from TPB. Due to the similarity (in terms of constructs and relationships) of UTAUT with TAM and TPB, the current and future adoption and diffusion studies might be favouring use of UTAUT. This is particularly more likely as many scholars in the recent past have criticised over-exploitation of TAM which ultimately affects the development of alternative theories and models in this area (Dwivedi, Rana, Chen, & Williams, 2011).

Performance expectancy and effort expectancy are used to integrate variables such as perceived usefulness and ease of use. The model suggested that the effort expectancy construct can be significant in determining user acceptance of information technology. The model explains that individual differences influence technology use. The UTAUT as shown in figure 2.8 was developed to explain users' behaviour intention to use an information system as well as increase usage behaviour (Alshehri, Drew, & AlGhamdi, 2013).

Even though the UTAUT model is relatively new, its suitability, validity and reliability in technology adoption studies in different contexts has been proven by different scholars (Anderson & Schwager, 2004; Lin, Chan, & Jin, 2004; Rosen, 2005; Venkatesh *et al.*, 2003). Al-Gahtani, Hubona, and Wang (2007) investigated the applicability of UTAUT in Saudi Arabia. They tested the moderating effects of several variables, such as gender, age, and experience. Instead of comparing the results from their Saudi Arabian sample with those from other countries, they indirectly addressed the effects of country or culture. Although their study did not directly compare samples from different countries, they found that culture is a significant moderator of technology acceptance. AlAwadhi and Morris (2008) also investigated the adoption of e-government services using UTAUT, the survey was carried out on 880 students revealed that performance expectancy, effort expectancy and peer influence determine students' behavioural intention. Similarly facilitating conditions and behavioural intentions determine students' use of e-government services in Kuwait.

In another study by Wu, Tao and Yang (2007) UTAUT was used to explore the behaviour of 3G mobile communication users, and found that three of its constructs, performance expectancy, social influence and facilitating conditions were significant in predicting the behaviour of users. Studies indicate the effectiveness of the model, Oshlyansky, *et al.* (2007) validated UTAUT tool cross-culturally. They used the UTAUT in a research to predict acceptance of technology with 290 participants. The result of the study showed that performance expectancy, social factors, facilitating conditions, and system flexibility have direct effect on the employees' intention to use technology for training, while system enjoyment, effort expectancy, and system interactivity have indirect effects on employees' intention to use the system.

Furthermore, Šumak, Polančič and Heričko (2010) found that social influence has a significant impact on students behavioural intention to use Moodle and students' behavioural intentions is a powerful predictor of the use of the e-learning system. In a study to investigate the role played by motivation in e-learning technology adoption, Maldonado, Khan, Moon and Rho (2009) found facilitating condition to be non- significant in predicting use behaviour.

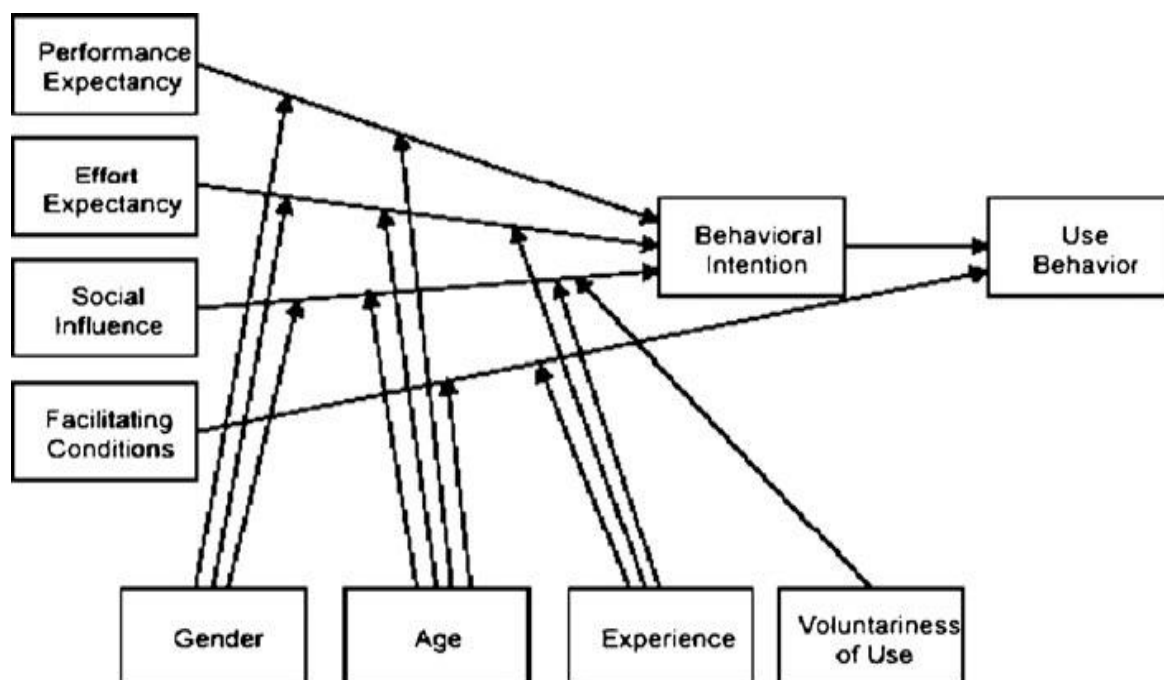


Figure 2.8: Unified Theory of Acceptance and Use of Technology (Source: Venkatesh *et al.*, 2003)

Nassuora's (2012) study on students' acceptance of mobile learning for higher education in Saudi Arabia examined factors that had a positive relationship with behavioural intention to

use mLearning based on UTAUT model. Despite the fact that more than half of the students in this study were not familiar with m-Learning, they had a good perception of m-Learning and the results showed that the Effort Expectancy and Facilitating Conditions had high level of acceptance. The survey results confirmed five hypotheses. The results showed that a positive attitude leads to the behavioural intention to use m-Learning. Therefore, the university administration should focus on the design of the m-Learning system that is appropriate with student's perception. Good perception and university policy support were two major factors that lead to the success of the m-Learning system.

Wong and Dioko, (2013) investigated the adoption of interactive whiteboard among Australian early childhood teachers; Moghavvemi, Salleh, Zhao, and Mattila, (2012) studied IT Innovation adoption in Malaysia; Gao and Deng (2012) empirically investigated the determinant of Chinese users' acceptance of mobile e-books and they found the relationship between effort expectancy on behavioural intention was significant. Yu (2012) conducted a study that utilised the UTAUT model, and found that "age" as a variable does not moderate the influence of PE to behavioural intention.

Yoo, Han and Huang (2012) conducted a study on the acceptance of e-learning in a workplace in South Korea using UTAUT theory by targeting the exploration on the intrinsic and extrinsic motivation behind the acceptance of e-learning by young employees. Their results showed intrinsic factors such as effort expectancy and attitudes towards e-learning had a major positive effect on the behavioural intention of use while anxiety had a tremendous negative effect on the behavioural intention of use. On the other hand, extrinsic factors such as facilitating conditions did little with behavioural intention to use e-learning. The conclusion of this study was that extrinsic motivation on e-learning in the workplace did not immediately or independently influence the intention to use e-learning among employees.

In addition, Maldonado, Khan, Moon and Rho (2009) examined the acceptance of an eLearning technology in secondary schools in Peru; 240 students took part in the survey. Results from their study suggest that social influence significantly predicts behavioural intention. In the same study, Maldonado *et al.* (2009) found behavioural intention to significantly predict the use behaviour. UTAUT was also adopted by Yeoh and Benjamin (2011) in their study on behavioural intention to use e-banking services in Malacca and Kuala Lumpur using intercepts and identify factors influencing acceptance of e-banking snowball method. Included in their study also were service by customers and for this purpose UTAUT

was performance expectancy, effort expectancy, social influence and facilitating conditions from UTAUT model and anxiety, attitude towards using e-banking services, perceived credibility and self-efficacy. They found a high level of behavioural intention in their subjects and that performance expectancy and attitude towards using e-banking services influenced intention of using e-banking services.

Inevitably UTAUT poses both advantages and limitations for its applications in research. In terms of UTAUT's advantages, first is the holistic approach in explaining the underlying relationships among many psychological and social factors that might impact information technology adoption. Second is the consistent validity and reliability of the data collected by the UTAUT instrument (Lin & Anol, 2008; Wang, Wu, & Wang, 2009). For its limitations, even though this model has attained an adequate reception from different scholars, a number of shortcomings exist, attitude which refers to the individuals' feelings (positive or negative) towards the use of the technologies (Fishbein & Ajzen, 1975) is an important component of the TRA and the TAM, it is not explicitly included in the UTAUT model (Thomas, Singh, & Gaffar, 2013b). van Raaji and Schepers (2008) in their study argued that UTAUT is not parsimonious enough as it requires many variables to achieve a substantial level of variance, and the social influence (SI) and facilitating condition (FC) constructs might not be properly measured due to their complexity.

Another limitation is that the model does not make an interpretation on the assumption proposed based on the factors such as the computer self-efficacy (Yang, Zhou, Hou, & Xiang, 2014). Taiwo and Downe (2013) also observed that the significance of the relationship between facilitating condition and use behaviour does not pass the fail safe test while the significance of the relationship between behavioural intention and use behaviour does not pass the fail safe test satisfactorily. However, every model has its own shortcomings, which also influences the ultimate viability of UTAUT model as a whole (Cetron, 2007).

Nevertheless, the benefits obtained from this model are far more significant than the shortcomings listed above (Mayer-Schönberger & Lazer, 2007). Despite its limitations, the UTAUT model is an important concept because it integrated eight major theories and was tested on a large real-world data set (Im et al., 2011). According to Venkatesh *et al.* (2003), the effect of attitude on behavioural intention is spurious and it emerges only when performance expectancy and effort expectancy are omitted from the model. This means that attitude towards the use of the technologies does not provide enough unique information

beyond that which is already provided jointly by performance expectancy and effort expectancy.

The UTAUT model was empirically validated and able to account for 70% of the variance in usage intention/behaviour. This result was a significant improvement over any of the eight original models where the maximum was around 40% (Al-Queisi & Al-Abdallah, 2013; Alshehri *et al.*, 2013). Based on the insight derived from Venkatesh *et al.* (2003) theorising and empirical analysis, and the recent validation of the key constructs of UTAUT, the study will utilise the four constructs of UTAUT (performance expectancy, effort expectancy, social influence and facilitating conditions). Table 2.1 presents a mapping of research questions to the constructs of UTAUT.

Table 2.1: Mapping Research Questions to the Constructs of UTAUT

S/N	Research questions	UTAUT Variables
1.	What are the Web 2.0 tools used by academic libraries in South-South Nigeria use to market their services and products?	Use Behaviour
2.	To what extent to have academic libraries in South-South Nigeria embraced and applied Web 2.0 tools to market library services?	Use Behaviour
3	What are the attitudes and perceptions of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services and products?	Performance Expectancy (PE) Effort Expectancy (EE) Social Influence (SI)
4.	What policies do academic libraries in South-South Nigeria have to guide the implementation of Web 2.0 tools for effective marketing of their services and products?	Performance Expectancy (PE) Effort Expectancy (EE) Facilitating Condition (FC) Social Influence (SI)

2.11 Summary

In this chapter, the various models of technology acceptance such as TRA, TPB, TAM, C-TAM and TPB, DOI, MM, MPCU, SCT and UTAUT were discussed extensively. The key constructs that make up the models of technology acceptance were also examined. The justification of using UTAUT in this study was discussed. For instance, compared to UTAUT the TRA looks at the individuals' perceptions, attitudes towards the behaviour, social influences and explains relationships between attitude and behaviour. The weakness of the TRA model is the assumption that human behaviour is under voluntary control, and demographic factors of age, are not addressed. The review also revealed that TPB is limited in the acknowledgement of other variables such as habit, perceived moral obligation and self-identity that may predict intentions and behaviour. Even though, the model predicts individual's intention to perform a given behaviour and is an extension of TRA in predicting and explaining human behaviour.

The TAM, though widely used and accepted has been criticised for its non-specificity, inadequacy in measuring system usage, the absence of sound method for measuring PU and PEOU, disregard for societal factors that affect predictors of adoption. C-TAM and TPB is only adequate for defining individuals' behaviour for accepting technology but weak in representing organisational inclination for technology. The DOI despite having a well-developed concept in innovations as a predictor for technology acceptance lacks evidence on how attitude evolves to acceptance. MM on the other hand, is limited by its inability to demonstrate that all individuals' can ever be equally motivated, and the difficulty of predicting application in management practice.

MPCU explains individuals' behaviour toward others in a complicated social environment. The model's strength lies in computer usage behaviour in only a voluntary environment, and neglects facilitating conditions and habit as predictors. SCT as model on the other hand is too mechanical and pays little attention to developmental changes and too much emphasis on environmental predictors.

Finally, the UTAUT was chosen as a theoretical model to underpin and guide the study. This is due to the relevance of its four variables, PE, EE, SI and FC to the objectives of the study. It is assumed that access to and utilisation of Web 2.0 tools will facilitate marketing academic library services. This implies that there is bound to be a potential increase in PE of these tools, if the librarians see value of using Web 2.0 tools to market their services. EE presumes

that efforts put in using Web 2.0 tools to market academic library services would yield positive results, while SI proposes that academic libraries in the study area will be encouraged to use Web 2.0 tools to market their services because of its use by other academic institutions and users as well. The facilitating condition is based on the premise that there will be extensive access and effective use of Web 2.0 tools by academic libraries if there is enabling environments in academic libraries in South-South Nigeria.

The review of technology acceptance models, as provided in this chapter, shows the relevance of the UTAUT variables to the study on the effectiveness of using Web 2.0 to market academic library services in universities in South-South Nigeria. The next chapter reviews literature on the Web 2.0 tools used by academic libraries.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

Literature review is a systematic, explicit, and reproducible method for identifying, evaluating, and synthesising the existing body of completed and recorded work produced by researchers, scholars, and practitioners (Fink, 2005:3). This chapter provides a literature review of published and unpublished articles, empirical studies, books, thesis and dissertations; existing body of completed and recorded work from America, Europe, Asia, Africa and Nigeria on the implementation and use of Web 2.0 tools by academic libraries.

The purpose of this study was to explore the effectiveness of Web 2.0 tools in marketing academic libraries in selected universities in South-South Nigeria. The study addressed the following research questions: What are the Web 2.0 tools used by academic libraries in South-South Nigeria? To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services? What are the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services? What policies do academic libraries in South-South Nigeria have to guide the implementation of Web 2.0 tools for effective marketing of their services?

The chapter is structured around themes of research questions, broader issues on the research problem and variables underpinning the study. This chapter covers: a) the categories of Web 2.0 tools used in academic libraries; b) the various Web 2.0 tools and how they can be used in the library; c) the use of Web 2.0 tools in academic libraries; d) the Web 2.0 tools that are used for marketing academic library product and services; e) the benefits of using Web 2.0 tools to market academic library services; f) the effectiveness of using Web 2.0 tools to market academic library services; g) the challenges, and deterrents of using Web 2.0 tools in different libraries; and h) ways of optimising the use Web 2.0 tools in marketing academic library products and services. The chapter also presents a summary of the literature reviewed regarding the use and implementation of Web 2.0 tools for marketing academic library services.

3.2 Categories of Web 2.0 Tools used in Academic Libraries

Chua and Goh (2010) classified Web 2.0 tools used by libraries into four categories. These included information acquisition tools that are used to gather information from sources

outside libraries (for example, blogs and wikis), information dissemination tools that are used to distribute content and information to patrons (such as RSS feeds), information organisation tools that facilitate storage and subsequent retrieval of information (social bookmarking and tagging), and information sharing tools that facilitate the bilateral flow of information between libraries and patrons (social networking and media sharing sites). According to a categorisation by Rudman and Steenkamp (2009), Web 2.0 applications can be categorised in the four main categories tabulated in 3.1 below.

Table 3.1: Categories of Web 2.0 Tools (Source: Rudman & Steenkamp, 2009)

Categories	Tools
Publication: Blogs and wikis which can be edited and contribute content by various users.	Weblogs (blogs), wikis, user-generated media
Syndication: This facilitates the sharing, consolidation and sourcing of information from various sources.	Really simple syndication (RSS) or newsfeeds, social tagging or bookmarking, folksonomies
Collaboration: Users can create communities to collaborate or use tools to collaborate on projects.	Social networking, peer-to-peer networking, Web application program interfaces (APIs)
Recombination: Flash-based players, podcasts are easy to create and can be used for various purposes	Podcasts, mash-ups

Similarly, Boateng and Quan Liu (2014) identified a number of Web 2.0 tools and grouped them into several categories: Really Simple Syndication (RSS) - an XML-based format usually used for content distribution of news and news headlines on a website; blog - a website that usually has a collection of brief posts, articles, essays, photos, or other writings managed by an individual or an organization; Wiki - a tool for the collaborative creation of a community document that is authored, edited, and modified by the collective endeavours of

multiple authors; Instant messaging (IM) - IM is an online communication between two or more people using text-based short messages.

3.3 Web 2.0 tools and how they can be used in the Library

Some of the well-known examples of Web 2.0 tools available for use in academic libraries are Blogs, Wikis, Rich Site Summary (RSS), social networking sites (SNS), Instant Messaging, Tagging, Twitter, Podcast/Vodcast, Social Bookmarking, LinkedIn, YouTube, Virtual 3D games, Web mapping, Flickr, Mashup and many more.

3.3.1 Blogs

Blogs are defined as a hierarchy of text, images and media objects arranged chronologically (Chua & Goh, 2010). Also known as Weblog, or Web log, a Blog is a website consisting of entries consisting of brief paragraphs of opinion, information, personal diary entries, or links, called posts, appearing in reverse chronological order in the style of an online journal with the most recent entry appearing first (Gunelius, 2014). Li (2013) opines blogs encourage user interaction through their comments feature, which allows users to provide feedback regarding the information. Information professionals can post news and events occurring in their organisations. Blogs facilitate the provision of easy-to-update information for users, while also encouraging patrons to comment and interact on the information by inviting client feedback (Yi, 2014).

Stephens (2006) opines that library blogs can be building blocks for communicating news and information to users. He suggests librarians should aim to create a feeling of transparency by blogging about proposed projects and plans, and listening to users via comments and then responding to them. Since blogs can be easily created, updated, and maintained without technical expertise, their numbers have exploded globally in recent years. They are popularly used in libraries to broadcast library news and market other library resources. For example, Blogs are an invaluable part of New York Public Libraries social content marketing, with librarians acting as internal advocates and most of the traffic coming from Google searches and Blogs serve as a point of entry for customer service (Dankowski, 2013).

Blogs can be used in libraries as a form of publication, or as tools for marketing the library resources, events, policy manuals and training resources (Aharony, 2009). Academic librarians and faculty members can also develop blogs as subject guides. Some librarians and professors have already introduced this Web 2.0 feature into library websites as information dissemination spaces to provide information services to the users, but the purpose of using

blogs in different libraries varies greatly. Some libraries have created specific subject blogs for users with interesting subjects such as Catalogablog, Bib Blog, Cataloguer 2.0; some have provided news and library services through blogs for instance, Information Literacy Weblog, Community Virtual library and iLibrarian Blog; some have provided web-based reference services with the help of blogs for example The Invisible Web Weblog and some like Connecting Librarian and Creative Librarian use blogs just for newsletter (Li, 2013). Dinesh and Nikam (2009) point out that blogs are used to upgrade library services to match with users' expectations. Further they emphasised that blogs resemble resource-sharing philosophy and reduce the time lag between acquisition and dissemination of information. It is easy to update information in a blog than in a website.

Libraries are using Blogs to bring their users backend where they can interact freely with the staff, introduce users to past and present activities and update them on current events. In library settings, Blogs have great application such as current awareness about general news, book reviews and subjects of interest, internal communication, promoting library services and most importantly encouraging user's feedback (Walia & Gupta, 2012). Malhan and Shivarama (2012) observed that libraries have a role in recognising the value and popularity of user-generated content in the larger interest of sharing best practices in any given domain. This is essential for the maintenance of a quality scholarly blog or portal for the academic or research library. Librarians can also develop subject-specific Blogs and play a leading role in advocating the use of blogs for scholarly communication and commenting on research findings (Ezeani & Igwesi, 2012). Potter (2012) suggested some quick ways to increase Blog engagement. This includes:

- Most importantly, make it infinitely shareable: users should never have to think for more than half a second about how to share your blog whether via Twitter, Facebook, e-mail, or whatever pertinent platform.
- Make it easy to subscribe. It's easy to give people multiple ways to subscribe and it is desirable to build up a captive audience through blog subscriptions.
- It is important to register the Blog, make sure it is listed on Google and other search engines. Stick a link on the library website as well.
- Comment on other Blogs as your institutional Blog, people are happier to engage with you if you're engaging with others, and it'll link back to your blog.

- Link your social media presences. Twitter is a huge driver of traffic to Blogs. This can be done automatically using services like <http://future-tweets.com> and increase views when others share.
- Put a number on it. For whatever reason, a post entitled ‘5 tips for doing X’ will get more views than the same post entitled ‘Guide to X’.
- Ask a question. Blogs are a rare opportunity for libraries to give their users ownership of something. Ask a question, either in the title of the post or at the end, and give them a voice via the comments section;
- Ensure there is something of really high quality and overall usefulness on the front page, to lure the new readers in and hook them (Potter, 2012).

Blog users, however, might not be motivated by the same reason as users of other web-based applications. Through a content analysis of more than 19,000 microblog comments, Oulasvirta, Lehtonen, Kurvinen, and Raento (2009) suggest that extrinsic motivation mainly drives usages of blogs (curious about others' life, being acknowledged offline for efforts).

3.3.2 Wikis

Wikis are defined as a collection of web pages which allows users to add and edit content collectively. Wikis are being used as a tool for creating, authoring and allowing a group of people to edit website content collaboratively (Ram, Paul, & Kataria, 2011). Libraries use wikis to facilitate personal learning and reflection, support group-level knowledge sharing and help users to locate knowledge.

Wikis have been suggested to provide ample opportunities for students to develop holistic information integration competencies via collaborative knowledge building processes (Moskaliuk, Kimmerle, & Cress, 2009). The wiki structure and the contributing processes require users' high-level participation and abilities to critically evaluate information, to synthesise information objects with different formats, and to work independently and collectively with peer contributors (Moskaliuk *et al.*, 2009; Wheeler, Yeomans, & Wheeler, 2008).

In turn, collaborating with others in wikis promotes group and debate based learning while valuing all participants' input and opinions (Wheeler *et al.*, 2008). Wikis' lack of hierarchical navigation system further enables the collaborative contribution process synchronously and asynchronously (Moskaliuk *et al.*, 2009). For instructional purposes, students in wikis can

interact with others synchronously or asynchronously, collaboratively solve problems at their own pace, provide instant feedback to each other, clarify misunderstandings, and construct their knowledge objects (Huang & Nakazawa, 2010; Moskaliuk *et al.*, 2009). Some scholars argue that the utilisation of wikis is in accord with social learning theories as online collaboration promotes higher social engagement level among students (Shen, Hiltz, & Bieber, 2006; TRENtIn, 2009).

3.3.3 Rich Site Summary (RSS)

RSS (Rich Site Summary), also known as “Really Simple Syndication,” is designed to enable subscribed users to receive regularly changing web content of news-like sites, news-oriented community sites and even personal weblogs at a central point without requiring users to visit multiple sites to receive updates (Kim & Abbas, 2010; Stephens, 2006). RSS is a family of web feed formats used to publish frequently updated works such as Blog entries, news headlines, audio, and video in a standardised format. It is a most popular and easy tool among Web 2.0 technologies and can be used as an information dissemination tool. With its merits of simplicity, timeliness, extensive sources and personalisation of syndication and without interference of RSS is the Web 2.0 technology that is utilised most widely in the study conducted by Si, Shi and Chen (2011).

In academic libraries, users can subscribe to a library website that offers RSS feed for library information and activities such as new issues of journals, new books, and library events. RSS is defined as XML-based metadata content from a Blog or other source. RSS can be used to publish frequently updated websites in a standardised format. By utilising RSS technology, huge amounts of information is pooled together to formulate a personal information gateway and users could access what they want without logging onto the websites (Si *et al.*, 2011). Web content is created or published in one place to be displayed in other places, such as in RSS aggregators (also called “readers”). Whenever the source gets updated, the RSS feed gets updated, and any aggregators that are subscribed to that feed are notified that there is new content available.

People who use aggregators, such as Bloglines, NetVibes or Google Reader, to monitor RSS feeds get alerts when new content is added to blogs or news sites they have added to readers (Buigues-García & Giménez-Chornet, 2012; Chua & Goh, 2010; Tripathi & Kumar, 2010). Many academic libraries put RSS on their websites with varying purposes. RSS is used for providing up-to-date news or current information to library users. The library community can,

via RSS, stay informed of current events, happenings, new products and other news information that are of interest to them. Some use RSS for releasing news or announcements while some for noticing the arrival of new books (Li, 2013).

3.3.4 Social Networking Sites (SNS)

Social networking sites (SNS) are web-based services that allow people to:

1. Create a public or semi-public profile within a bounded system;
2. Make a list of other users with whom they share a connection; and
3. View and traverse their list of connections and those made by others within the system (Boateng & Quan Liu, 2014).

The SNS is a site where anyone can interact with anyone else, where users "already are", and where the library enters to establish relationships with them. The library website should contain all the institutional and current information, always updated. SNSs could serve both as a "sounding board" to broaden the visibility of library services and library activities. This will create around the library a community of users, both real and potential, but still interested in the life of the library itself that, through their contacts, may increase the knowledge of it in the community (Mazzocchi, 2014).

Facebook one of the SNS, is a free social networking site created by Mark Zuckerberg. It was originally intended as a site for Harvard University students, but currently is open to anyone with an electronic mail account. Users can participate in one or more social networks related to their academic situation, place of work or geographical location (Buigues-García & Giménez-Chornet, 2012). Facebook has 1.09 billion daily active users on average, 989 million mobile daily active users on average, 1.65 billion monthly active users, 1.51 billion mobile monthly active users, approximately 84.2% of daily active users are outside the US and Canada (Facebook, 2016). Facebook users have a total of over 150 billion friend connections and upload on average more than 350 million photos to Facebook each day, people messaging their friends or groups, news feeds, people posting updates and seeing what was going on with their friends and the people or group that they care about (Facebook, 2013, 2016).

In recent years, Social Networking Sites (SNSs) usage has increased sharply as these networks have become interwoven into people's everyday lives as virtual meeting places that facilitate communication. SNSs, such as Facebook, Google+, LinkedIn, Twitter, Tumblr,

have hundreds of millions of daily active users (Fire, Goldschmidt, & Elovici, 2014). With aggregated features found in other Web 2.0 applications such as messaging, blogging, video streaming and social tagging, librarians are able to connect with users, raise awareness about library services and broaden their contact base (Chua & Goh, 2010).

Facebook provides users with a chance to interact, create, and share content. It has proved a conversational and knowledge-sharing platform with a high level of feedback options (Stephens & Collins, 2007). Some university libraries use Facebook in the library websites for searching the catalogue by linking their online catalogue while some others for managing their fans' information which can be completed automatically when new information is added (Li, 2013). Garcia-Milian, Norton, and Tennant (2012) suggest that the more likes a library's Facebook page has, the greater the potential for engagement with users via this medium. Users can like and share library updates which will show in their new feeds of their Facebook friends, who might likely be their peers or course mates thereby spreading information about library services among a larger population of users. Chu and Kim (2011) referred to the Facebook phenomenon as "electronic word-of-mouth" (eWOM) in the business literature, and has been recognised as a potentially critical promotional tool. Furthermore, Facebook and MySpace were found to be helpful in enhancing libraries' social visibility through profiles that showed a uniform identity. It was also found that MySpace allowed different librarians to contribute knowledge and information, maintain a profile together and promote new library collections (Chu & Du, 2012).

Charnigo and Barnett-Ellis (2013) stated that Facebook is currently the largest online social network targeted for the academic environment, while Muruli and Gireesh Kumar (2013) asserts it is the most popular and successful of its kind as it is very user-friendly and interactive website for connecting library services to the users. Many applications like Journal Storage (JSTOR) search, World Cat have been made available for the users through Facebook. Librarians can interact with users to know their information need. This new channel of communication helps to keep more general topics for discussion thereby supporting research, teaching, and extending their services to more users. Better and faster distribution of library newsletter, uploading brochures about academic activities such as schedules of conference, seminars can be done in no time on Facebook (Muruli & Gireesh Kumar, 2013).

Chiu and Lin (2012) conducted content analysis to survey 10 Facebook profiles of academic libraries in Taiwan. Detailed analysis included how profiles were managed and maintained, what types of information were provided and shared, what behaviour users demonstrated on the profiles, how users interacted with posts through commenting. Apart from posts contributed by the libraries, the posts made by the users were also analysed and coded based on the schema from previous literature, to observe the happenings on each library's Facebook and among its community of users. Findings indicated that the high levels of user participation come from their tendency to ask questions on the library's Facebook page, expecting prompt replies and therefore allowing the libraries to continuously engage with their users.

3.3.5 Instant Messaging

Instant messaging, or online chat, is one of the most popular forms of computer communication. Instant messaging is a type of online chat which offers and allows users to send real-time text messages over the Internet. Libraries can use instant messaging to provide chat-reference services so that users can ask questions and receive responses directly from librarians (Gibbons, 2007). Instant messaging reference has the same advantages as live chat. It provides an instant connection to a librarian and allows users to get personalised or anonymous help, without coming to the library. IM has been used in library websites for providing reference services quickly through its interactive feature by replacing the traditional communication tools such as e-mail. It can offer not only messages, but also multimedia resources such as pictures and audio files. The real-time online chat between users and librarians can provide answers to the questions instantaneously proposed by the users without wasting time from a remote location (Li, 2013; Walia & Gupta, 2012).

3.3.6 Tagging

A tag is a non-hierarchical keyword or term assigned to a piece of information (such as an internet bookmark, digital image, or computer file). This kind of metadata helps describe an item and allows it to be found again by browsing or searching. Tagging is a practice where users assign uncontrolled keywords to information resources. Tags are used to organise information within a personal information space. Tags also work in shared space allowing the browsing and searching of tags attached to information resources by other users (Macgregor & McCulloch, 2006). Rolla (2011) observed that many of today's most popular websites allow users to "tag" specific content; that is, users can supply their own keywords to describe websites, images, or other content. User-supplied tags of this type potentially offer a way for

libraries to improve subject access to the materials in their collections. Tagging allows open and informal methods of categorising and associating keywords or “tags” with online content; tags allow users to generate content and classify that content in their own unique way (Downes, 2005; Farkas, 2007b; Si *et al.*, 2011).

Folksonomy is a system of classification derived from the practice and method of collaboratively creating and managing tags to annotate and categorise content; this practice is also known as collaborative tagging, social classification, social indexing, and social tagging (Si *et al.*, 2011). The tags added to a folksonomy can be arranged into a tag cloud. A tag cloud is a collection of the most popular tags arranged in a cloud-like manner so that the more popular terms are represented with the large font sizes (Anfinnsen, Ghinea, & De Cesare, 2011). Library OPAC can allow users to define their own keywords for library resources and to parallel subject headings defined by librarians. Likewise, the library tag cloud can encourage users to browse their matched terms. While information need, can be defined as a query in an information retrieval approach, on social bookmarking sites, the information need is a tag provided by users to obtain an ordered list of resources related to that tag. Thereafter, the systems provide a list of related tags, allowing navigation through the collection (García-Plaza, Zubiaga, Fresno, & Martínez, 2012).

3.3.7 Twitter

Twitter is a virtual social network allowing users to write short messages (of up to 140 characters), called tweets, that can be read by anyone with access to their page. It is an Internet social network and micro-blogging platform with both mass and interpersonal communication features for sharing (Buigues-García & Giménez-Chornet, 2012; Chen, 2011). Twitter is the second most popular Web 2.0 platform. Often library users prefer Twitter to interact with librarians because Twitter is more influential than other Web 2.0 tools and what happens on Twitter does not stay on Twitter. Library staff and patrons can be updated on library’s daily activities, for example, frequently updated library collections. Users can utilise this platform to type in short messages or status updates. Twitter can create library service alerts (Ezeani & Igwesi, 2012).

As an accessible public relations and marketing tool, Twitter has been more effective for non-profit organisations as a means of engaging with clients, than have their traditional websites (Kanter & Paine, 2012; Waters & Jamal, 2011). To make it more distinguished, a Twitter account could be given a personal touch. A picture for instance could be added to the Twitter

account page's wall paper. The library could also set-up searches for its Twitter account to save and retrieve them quickly, like setting up a search on the name of your library, or setting up a geo-locational search. If ever a human error occurs in posting a message, the librarian can quickly respond and apologise seriously. There are over a million Twitter tools; it is good to stick to ones that give actionable results (Potter, 2012).

Carscaddon and Chapman (2013) extensively discussed Twitter as a marketing tool for libraries including tips, best practices, evaluation and assessment of a Twitter account. Below are some suggestions of Twitter vocabulary:

- Tweet: a message of up to 140 characters posted on Twitter.
- Twitter stream: series of tweets from a Twitter account.
- Retweet (RT): a tweet forwarded by someone to his/her followers.
- Followers: these are individuals or organisations that choose to follow your Twitter and receive all your tweets.
- Following: these are individuals or organisations that you have chosen to follow on your Twitter account; you will receive their tweets.
- Mention: using @username to talk to or mention a specific Twitter account in a Tweet.
- Hashtags: words or phrases preceded by # used as tags. Clicking on a hashtag will search for all public instances of its use; hashtags can also be included in saved searches (Carscaddon & Chapman, 2013).

Twitter has become an important feature on the social media landscape and it has been an increasingly popular social networking tool for libraries to reach out to their patrons (Sewell, 2013). Many libraries have decided to use Twitter as a bridge to patrons by the sharing of pertinent information, to understand and incorporate the experiences that people have using Web 2.0 tools such as Twitter, Gunton and Davis (2012) suggested that social media spaces should be utilised by libraries. It helps to keep staff and users informed of the events and programs of library, workshops, new arrivals, and new services. Marketing activities happen at its best way as it facilitates the real-time communication which can also be instrumental in online reference service. Modern libraries are finding exemplary marketing strategies to engage with their followers on twitter that is resulting in increased number of patterns.

Twitter post can be linked to the home page of the library, blog posts, wiki, or online archives for detailed information ((Muruli & Gireesh Kumar, 2013).

3.3.8 Podcast/Vodcast

A podcast (personal on demand broadcasting) is an audio recording which can be played on computers or MP3 devices. A podcast is made by creating an MP3 format audio file, uploading it to a host server, and publicising it through subscribed downloads and RSS feeds. The delivery of audio streams by podcast is managed through pod-catchers such as iTunes, Armangil or Juice. Podcasts are frequently used to broadcast speeches and interviews of important personalities. A vodcast is the video matching part of a podcast. Libraries can offer podcasts to promote recordings about library services, programs and activities (Boateng & Quan Liu, 2014; Stephens, 2007).

The podcasts have given the user community the opportunity to listen to recorded intellectual outputs online without any additional software and to download for later use. These tools have proved to be useful in expanding, promoting, and posting digital and web-based information services to the patrons. Indeed, this has helped information professionals to take information services to where the patrons are (Makori, 2012b). The library world already uses podcast for delivering library web-based information as information services such as providing library updates and news. Some university libraries use this concept to make guide videos for new users. The potential users of podcast in libraries still need to be found by librarians (Li, 2013). Harinarayana and Raju (2010) observed that libraries of Imperial College London, Johns Hopkins University and Cornell University mainly use podcasts for providing information about library tours, library updates and news. They further stated that university libraries can also promote and extend information services to the patrons through the use of podcast or other systems.

3.3.9 Social Bookmarking

Social bookmarking is the practice of saving bookmarks to a public Web site and “tagging” them with keywords. Bookmarking, on the other hand, is the practice of saving the address of a Web site they wish to visit in the future on their computer. To create a collection of social bookmarks, register with a social bookmarking site, which allows users store bookmarks, add tags of choice, and designate individual bookmarks as public or private. Some sites periodically verify that bookmarks still work, notifying users when a URL no longer functions. Social bookmarking began in crude form in the late 1990s. It then fell out of favour

online due to changes in the web. It came back in 2005 and has been getting increasingly popular ever since (Shivalingaiah & Naik, 2011).

Unlike file sharing, the resources themselves aren't shared, merely bookmarks that reference them. It involves linking sites within the various forums, blogs, and message boards on social networking. Social bookmarking is a user based online system in which individuals tag their favourite web content and store it in one place, sharing it with others. The favourite content of person may also be the favourite of another person then it will boost the website traffic. In essence, users can collect their favourite-resources or subjects in an online, open environment that other users are free to read, and share library websites while some just provide links to a free online tagging address for users. Libraries can use social bookmarking services sites such as "del.icio.us" to enable users to share web resources (Boateng & Quan Liu, 2014; Goswami & Choudhury, 2014; Li, 2013; Shivalingaiah & Naik, 2011).

Think about your list of favourites or bookmarked sites that you have on your own computer: a Social Bookmarking website makes this list available anywhere that you can connect to the Internet, so the user can access these bookmarks from home, work, or even a public computer. Bookmarks can be saved privately, made available to other Internet users or shared with friends or colleagues (Click & Petit, 2010). Social bookmarking has been widely used on the websites, which can easily develop a community for the users with same subject interest.

3.3.10 LinkedIn

LinkedIn focuses on professional information, encouraging users to construct an abbreviated CV and to establish "connections". Profiles are strictly professional, with little or no information about hobbies, political or religious affiliations, favourite music, books, or movies included. People can solicit and make available recommendations from other members and control how much of their profile to show to the public and to connections. A core notion is that members can explore the direct connections of their connections. More distant LI members can be approached via an introduction forwarded through the shortest chain of intermediaries. Paying members can search for LI members meeting certain occupational or other characteristics, which is particularly useful for recruiters or consultants (Skeels & Grudin, 2009).

LinkedIn is increasing its popularity and has become the most used social networking platform for professional activities, even exceeding the popularity of Facebook. This result

highlights a change in the researchers' use of Social Media as they are beginning to use Web 2.0 tools that are more professional-tailored at least in the category of social networks. LinkedIn can be used by the libraries to create professional connections as well as market library services among other professionals working in different libraries of the world. By LinkedIn, libraries can also solicit their ideas and professional experiences while library patrons can connect with subject specialists in their field of interest. Library professionals can use this platform to render specialised services such as Selective Dissemination of Information (SDI). LinkedIn also facilitates and creates professional connections among the library professionals. LinkedIn can be an effective marketing channel with proper planning and implementation (Muruli & Gireesh Kumar, 2013; Sachin, 2014).

3.3.11 YouTube

YouTube is a video sharing site created in 2005 which allows people around the world to communicate and interact, making it a distribution point for user created content ("YouTube.com," 2013). Although not much literature exists on using YouTube on actual marketing of library services, however, the ubiquitous nature of the Web 2.0 tool is such that using it for service provision in essence markets what the library offers (Yi, 2014). Academic libraries primarily used YouTube to promote services, host lectures, and provide information literacy demonstrations for highlighting best practices for conducting research and navigating through specific databases. YouTube also appears to be a successful tool for reaching out to patrons because it is easily scalable without requiring frequent updates once a video has been uploaded, unlike Facebook or Twitter, which requires regular updates to maintain user interest (Collins & Quan-Haase, 2014).

YouTube can be used to experiment and advertise services, resources, locations, which can be especially useful for incoming students or new faculty who can watch such videos weeks before they arrive on campus. In an in-depth analysis of how academic libraries can embrace video sharing sites like YouTube, Little (2011) provided a few examples academic libraries can produce a video overview of the library narrated by students, faculty and librarians, which emphasises the library's vast collections, librarians' professional assistance and the library's role as a space for interaction, intellectual exploration, and socialisation. Vucovich, Gordon, Mitchell, and Ennis (2013) outlined the successful use of YouTube videos for library instruction and reference services. The high level of usage of the library's YouTube channel since inception suggests that the level of interaction between the library and its users would

also increase. This use of YouTube demonstrates how making the presentation of information and associated activities can be more diversified and therefore more interesting.

Ease in accessing information in this era has become an important issue and for fulfilling this subject many websites maintains a multi-faceted platform for individuals, organisations, institutions etc. to use for their needs. To demonstrate libraries' attempts at creating, developing or maintaining a recognizable brand for their user communities, Ivie, McKay, May, Mitchell, Mortimer and Walker (2011) compiled a mediagraphy on marketing and promotion of library services, including YouTube with a list of library marketing videos as well as their YouTube links provided. Prototype videos included in the list were Harper College Library's video tour of the library on a book cart with a funny host who pointed out useful places and items in a college library; New York Public Library's YouTube broadcast titled "Shout it out for your library", which was a compilation of celebrities describing why the library is important; and Pueblo City-County Library's promotional video presenting a tour of Teen Central, where young students set up books to fall down domino-style through the area as the tour progressed.

In order to understand how libraries are using YouTube for marketing purposes, Colburn and Haines (2012) identified and analysed library promotional videos on YouTube, by considering ways in which viewers discovered and interacted with these videos. Different measures of the effectiveness of the videos in reaching the public were examined in case studies of three representative videos and they derived a set of evidence-based best practices for the use of online video as a promotional tool by libraries. Findings revealed that a majority of views were from within the library profession and they felt that producing libraries could do a better job of promoting their videos to the intended viewership, by frequently and strategically featuring online video content in websites, local or campus communication vehicles, and social media environments, in order to increase viewership by the intended audience. Proposed best practices proffered was setting goals and interacting with viewers, both through humour in the video and through using features of the platform to communicate after watching.

Martin (2012) in a study on "One-minute video: marketing your library to faculty" described a successful streaming video communication effort developed by Northridge Oviatt Library at the California State University, to reach out to campus faculty. The videos were accessible on YouTube and the library's website, aiming at promoting new and existing library

resources and services. Two library staff members, a librarian and a Cinema and Television Arts student joined forces to produce the videos with support from other campus departments. Positive feedback from the campus community was received about the videos. Exploring social media use for customer engagement, Kho (2011) also substantiated the successful use of YouTube to market the library's collection. YouTube also enables users to embed videos onto other Web 2.0 tools, such as Facebook, blogs and wikis.

Similarly, the popularity of video sharing via social media drew the attention of librarians and impressed by the pervasive use of video sharing sites in students' campus life at Tsinghua University in China, Luo, Wang and Han (2013) decided to create a library marketing campaign project to take advantage of it. The marketing project aimed at improving library brand awareness, promoting library resources, facilities and services, and encouraging the optimal use of the library in a popular and effective way. The outcome of the project was a series of videos (named "Falling in Love with the Library") that promote the library and evoke a feeling of love for the library via an entertaining and romantic story which was posted to the popular video sharing site Youku, a video sharing site similar to YouTube and promoted through multiple channels. The authors found that the series was successful due to content, style, venue, and partnership with students.

Although, view counts do not portray the entire picture because they fail to capture the impact videos have on viewers, which would require interviews with participants or ethnographic work (Collins & Quan-Haase, 2014). Colburn and Haines (2012) opine view counts are important criteria for evaluating the efficacy of online promotional videos," as "[t]hey serve as a 'bottom line' indicator of a given video's viewership. The reach of video content can be assessed by a useful measure, of counting total viewership.

3.3.12 Virtual 3D Games

Virtual 3D games allow users to create a virtual world. The virtual environment allows players to respond to multiple users simultaneously over the network, including the creation of their own identity through the so-called "Avatars". The most popular virtual 3D game for libraries is Second Life (SL). Second Life is an immersive 3D environment that can be used for entertainment and educational purposes. Due to increasing interest in digital services, some libraries have established virtual services on Second Life where users can interact with services in a practical way such as walking around a virtual library, attending library training and requesting reference services.

Second Life which has more than 50,000 avatars around the globe is one of the largest social virtual worlds (Chow *et al.*, 2012). This virtual world is created for game playing, as well as for collaborative work, learning activities and information sharing. This virtual environment requires participants to register on the website, enabling them to download the program and create their virtual characters (i.e. avatars). Avatars can assume any appearance based on the imagination of the users. There are currently more than 60 universities and colleges that have established virtual campuses in SL (Chow *et al.*, 2012).

Second Life users are typically referred to as "residents". The Second Life virtual world environment is similar in look and feel to some video games. A user guides an avatar through the environment using keyboard or mouse controls. Avatars can walk or fly within a SL location or teleport instantly between locations. The SL client includes a search utility to help users find locations of interest. Content creators may include a Second Life URL (SLURL) on a web page, which acts as a teleport link. Individual users can also save "landmarks" which, like website bookmarks, allow a user easily return to a favourite location. Objects within the virtual world can be scripted to be interactive, allowing users to click on or approach an object to receive information or otherwise interact with the environment (e.g., sit on a chair). Users can interact with each other using text chat, voice communication or by exchanging information with objects like "Note Cards", which are similar to plain text files (Cote, Kraemer, Nahl, & Ashford, 2012).

Several studies have explored the use and perception of SL by librarians (Elliott & Proberts, 2011; Mon, 2012). Vignoli and Tomael (2012) study on SL revealed that the application of SL for American Library Association (ALA) was satisfactory because many librarians declared their gratifications and admiration for the ALA Island. Librarians tried to implement SL in their services to meet the current and potential users' needs. Some librarians also believed that they could meet peers across the country or around the world in order to learn from them and share experiences (Chow *et al.*, 2012).

SL as a Web 2.0 tool could be used across the country or around the world by peers to learn and share experiences, chat with other reference librarians or as a communication tool between libraries and users as well as meet users need; current and potential users' need (Chow *et al.*, 2012).

3.3.13 Web Mapping

Web mapping is designed to allow users to obtain information concerning map products available on the World Wide Web. A Web Map Service (WMS) is a standard protocol for serving geo-referenced map images over the Internet that are generated by a map server using data from a GIS database. The received map data is an image taken from satellites and an XML application. Web mapping services include GoogleEarth, NASA Worldwind, Erdas, and FourSquare. A library can use web mapping services to notify users of its location and branches (Mahmood & Richardson, 2011; Mileto, Vegas, Soriano, & Cristini, 2014).

3.3.14 Flickr

Flickr is a photo sharing website which allows users to store, sort, search and post photographs and to create discussion groups. Besides posting materials for promotion purposes, information professionals can post photos of the organisation and staff to provide a virtual tour of their agency. They can also use Flickr as a potential source for acquisitions - local history collections can find Flickr a rich resource from which they may acquire (after agreement with the owners of the material) significant collection material (Yi, 2014). It provides an alternative form of content provision, with an emphasis on visual information. Flickr can be used by academic libraries to display historic photographs of library or university facilities, record annual events, social functions, services offered and document original exhibitions held at the library.

Flickr, however represents an example of a Web 2.0 tool that has been superseded by other tools that can better meet the unique needs of libraries such as Pinterest, which may diminish the future adoption of Flickr by libraries (Collins & Quan-Haase, 2014). It provides users with free Web space to upload images and create photo albums. Users then can share these photos with friends or with the public at large. Flickr facilitates the creation of shared photo galleries around themes and places (Lankes, Silverstein, & Nicholson, 2013). Sondarva (2013) suggested this image distribution tool could be a great way to share new image collections. Library can share photo collection of workshops, conference, and different programme that are organised within the campus. Libraries can create image sets with metadata, as well as take advantage of the many plugins available for Flickr users.

3.3.15 Mashup

A Mashup is a web page, web application, or website that uses and combines data or technology from two or more sources into a single integrated tool that helps a user when they

log in to create a new user experience. It is increasingly being seen as a potentially powerful way of exploiting existing data in new and imaginative ways. It allows the user to edit OPAC data and metadata, saves the user's tags, IM conversations with librarians, wiki entries with other users and catalogues all of these for others to use (Ikonne, Onuoha, & Madukoma, 2013).

This ease of incorporation has led to an assumption of a "right to remix". In the world of open source software and the creative commons, the right to remix refers to a growing expectation among Internet users that they are not limited by the interfaces and uses presented to them by a single organisation. For instance, an often-cited example of a Mashup is ChicagoCrime.org, which uses GoogleMaps to plot crime data for the city of Chicago. Users can now see exactly which street corner had the most murders. Another example is Book Burro (<http://bookburro.org/about.html>) – a Web 2.0 extension for Firefox and Flock. When it senses you are looking at a page that contains a book, it will overlay a small panel which when opened lists prices at online bookstores such as Amazon, Buy, Half (and many more) and whether the book is available at your library" (Lankes *et al.*, 2013).

In recent time, many organisations are providing various featured services, for example, Google map and Flickr have started new Mashup service named 'Earth Album', which allows searching most stunning photos available in Flickr database by simply clicking on a particular geographical location in a Google map. Similarly, there could be many possibilities with regard to the use of Mashup features in libraries, such as libraries can indicate the circulation section, reference section, shelf areas, specific collection or may be a specific title on shelves, and various library branches in a university in an online map by combining the similar technologies, which might be useful for the user community. Again libraries can collaborate with various commercial database vendors to linkup their catalogues with them (Goswami & Choudhury, 2014).

3.4 Use of Web 2.0 by Academic Libraries

Applying Web 2.0 technologies on library websites, libraries can encourage participation, collaboration and seek feedback from the user's community; Web 2.0 offers libraries a platform from where they can interact with their patrons (Walia & Gupta, 2012). Bradley (2007) opined that libraries should explore novel ways of communicating and attracting users through the use of Web 2.0 tools. Miller (2005) advocated the use of Web 2.0 by libraries in order to serve the users better, attract and retain potential users. He further cautioned that if

libraries do not use these tools to enhance services, they are likely to be ignored by users. It has been suggested that academic libraries could take the opportunity of using these tools to disseminate information, market services and promote new releases (Burkhardt, 2010). Xu, Ouyang and Chu (2009) conducted a survey of 81 academic library websites to investigate the application of Web 2.0 tools in university libraries, and how these tools could be used as enhancements to library services. They found as stated in figure 3.1 that Web 2.0 use in the library consists of five essentials: open, interactive, convergent, collaborative, and participatory.



Figure 3.1: Web 2.0 and libraries: five essentials (Source: Xu *et al.*, 2009:328)

- Open: allow and enable users to further develop libraries' operations and services
- Interactive: enable users to contribute and react in a library based on the Web 2.0 applications
- Convergent: various Web 2.0 tools can be utilised to accomplish libraries' missions
- Collaborative: librarians and users should be collaborators rather than disseminators and receivers

- Participatory: participation is the centre of Library 2.0; the creation and development of library services result from various stakeholders.

The rise of online social networking tools is rooted in the emergence of Web 2.0. Due to the high use of social networks among students and academics, librarians support these social webs to reach out to the student population (Farkas, 2007a; Milstein, 2009). Maintaining a virtual library in Second Life, community book services, community photo services, streaming audio and video, chat, reader's advisory, book lists, bookmarking, user added reviews/ratings/summaries, SNSs are some Web 2.0 services currently used by libraries (Kumar, 2013; Tripathi & Kumar, 2010). By displaying their status (whether they were online or not), librarians available to address their enquiries were easily identified by users. Librarians also found it advantageous when they wished to communicate with colleagues to answer users' enquiries, thus providing answers more efficiently (Chu & Du, 2012). Other purposes of Web 2.0 include enabling knowledge generation and use; enhanced interactivity between users and librarians; facilitating seamless communication and feedback; creating an information-sharing culture; enriching the information services with multimedia experiences; creating library environments that are fun to work with and use; empowering users to contribute library content; and facilitating the users to participate in the management of the libraries by making suggestions (Mutula, 2012).

Several studies found that Web 2.0 tools can be used for enhancing library services (Bradley, 2007; Huffman, 2006; King & Porter, 2007). Tedd (2008) observed that Web 2.0 tools offer new opportunities for better design and delivery of library services but will also make more demands on the library staff and system. A review of literature indicates that there is a high demand for new generation web applications in libraries. Similarly, Coyle and Hillmann (2007) and Sadeh (2007) advised that by not following technological innovations and trends on the web, libraries will not be able to compete with services such as Amazon or Google and may lose their position as primary information providers. A survey conducted by Boateng and Quan Liu (2014) on the application of Web 2.0 and trends in top US academic libraries showed 100% of the libraries surveyed have adopted and use Web 2.0 tools.

Luo (2010) investigated the use of Web 2.0 integration in information literacy instruction. The findings revealed that 4% of the librarians only used Web 2.0 tools for their own purposes without engaging students, 84% used Web 2.0 tools to facilitate the delivery of content to students. They found that libraries either used the tools to publish content for

students to access and interact with, or involve students in using the tools to complete coursework collaboratively and enhance interaction. Results of the finding also revealed that 38% draw upon certain features of the Web 2.0 technology to better illustrate information literacy concepts.

In another study, Mahmood and Richardson (2011) surveyed the websites of 100 member academic libraries of the Association of Research Libraries (USA) regarding the adoption of Web 2.0 technologies. The results revealed that all libraries were using various tools of Web 2.0. Blogs, microblogs, RSS, instant messaging, social networking sites, Mashups, podcasts, and vodcasts were widely adopted, while wikis, photo sharing, presentation sharing, virtual worlds, customised web page and vertical search engines were used less. Libraries were using these tools for sharing news, marketing their services, providing information literacy instruction, providing information about print and digital resources, and soliciting feedback from users. Their study presented an optimistic picture of academic libraries as they are keeping pace with the rapidly changing technological environment.

Xia (2009) also conducted a study on how libraries used Facebook to market their services and concluded that Facebook provided an easier and more manageable way of enhancing library services and encouraging faculty to use library resources. Some academic libraries embed the library catalogue into Facebook to allow students to access the content of the library catalogue without actually visiting the library's website (Farkas, 2007b). Furthermore, Facebook and MySpace were found to be helpful in enhancing libraries' social visibility through profiles that showed a uniform identity. It was also found that MySpace allowed different librarians to contribute knowledge and information, maintain a profile together and promote new library collections (Chu & Du, 2012).

Cook and Wiebrands (2010) surveyed librarians' use of online social networks for current awareness. The survey questionnaire publicised on Twitter, Facebook and Friend feed, received 137 responses. The findings revealed that curiosity was the major reason why librarians used social networking sites. The sites as observed from the results of the study indicates 120 (87.6%) of the respondent used these tools mostly for social discussions, while 110 (80.3%) respondents indicated the applications were used for keeping up with professional friends. A total of 90 (65.7%) respondents however indicated they used them to find answers to work-related questions. Among the social networking sites investigated,

Twitter was found to be the most useful for professional information as indicated by 94 (68.6%) of the respondents.

Si *et al.* (2011) concluded a study regarding application of Web 2.0 by 30 Chinese university libraries. The focus of this research was to identify what types of Web 2.0 technologies were applied in Chinese university libraries as well as their function and user interface. The authors found that 15 (50%) libraries were using RSS for news or notification on new acquisitions, customised subject information and availability of reservations and 14 (46.7%) of the surveyed libraries used an IM tool for the reference services. Only 3 (10%) academic libraries had Blogs and they used them to display specific information for particular departments within the university. The Wiki was only adopted by 1 (3.3%) academic library and was used in the cataloguing department to store information about cataloguing rules, work logs and staff responsibilities with members' personal details on the homepage. They concluded their work with the statement that the application of Web 2.0 technologies among Chinese university libraries was not extensive and profound enough.

A study by Garoufallou and Charitopoulou (2011) on the use of Web 2.0 tools by Greek Library and Information Science (LIS) students revealed that YouTube and Flickr were the second most used Web 2.0 tools after Facebook by the students. They added that students who use Flickr tend to use YouTube as well. Collins (2011) also researched how serials are embracing the culture of openness via Web 2.0 tools, while Anderson and Dresselhaus (2011) examined the changes in information behaviour that have shaped publishing 2.0 out of the traditional publishing model. Badman and Hartman (2008) provided useful explanations of RSS technologies that aggregate, deliver and organise feeds, and discussed the value of creating virtual reading rooms to increase awareness of the journal collection.

Gerolimos and Konsta (2011) conducted a study on the use of Web 2.0 tools by sending an online questionnaire to 69 academic librarians in North America, 32 academic librarians in Asia and 82 academic librarians in Europe. Their study concentrated on Blogs, Tags, RSS, IM, YouTube, Facebook, and Twitter. Findings indicated that Facebook and Twitter were the most used tools amongst the European academic librarians while Asian librarians had largely implemented Tags. Their findings further showed that librarians in Europe and Asia had lower levels of Web 2.0 usage compared to the academic librarians in North America who had two university libraries using most Web 2.0 tools. They concluded that while librarians in

North America were actively using Web 2.0 tools, librarians in Europe and Asia were still deeply rooted in the use of Web 1.0.

Makori (2012a) examined the extent to which university libraries in Africa were using Web 2.0 technologies for bridging the information gap. The researcher found that RSS feeds are being widely used as communication tools. The finding showed that clients were not going to the library to check on the 'traditional' notice boards about what the library wants to communicate to them, but instead were using Facebook or Twitter page access postings from the library. The study highlights how Web 2.0 tools have helped university libraries to provide, expand, promote, support and post information services to the patrons. Although, current usage of Social Media by the library community generally remains ad hoc and somewhat experimental, the uptake of these tools is accelerating, and they will likely play an increasingly important role in library service provision and outreach in the future (Taylor & Francis Group, 2014).

Ram *et al.* (2011) provided an insight into the implementation of some of the innovative Web 2.0 applications at Jaypee University of Information Technology (JUIT) with the aim of exploring the expectations of the users and their awareness and usage of such applications. Their study revealed that Learning Resource Centre of JUIT had made a number of provisions to adopt some Web 2.0 applications in its library services to create information literacy, however, users of the JUIT library still lacked awareness about various Web 2.0 applications necessary for teaching and learning. Sawant (2012) investigated LIS instructors' familiarity with Web 2.0 concepts, tools and services, and applications related to LIS education. It was found that LIS instructors, in some Indian universities, have a low level of familiarity regarding the use of Web 2.0. Moreover, the main problem in use of Web 2.0 in teaching was the lack of training programs organised by universities and other institutions for instruction in the use/teaching of Web 2.0 tools.

Similarly, Chu and Du (2012) investigated the use of Web 2.0 tools in academic libraries, by examining the extent of their use, library staff's perceptions of their usefulness and challenges, and factors influencing decisions to use or not to use such tools. Invitations to participate in a web-based survey were sent to one hundred and forty (140) university libraries from Asia, North America, and Europe. Responses were received from thirty-eight (38) libraries (response rate: 27.1%). The results indicated that twenty-seven (27) libraries (71.1%) used Web 2.0 tools, 5 (13.1%) of libraries were potential users, and 6 (15.8%)

libraries did not plan to use them at all. Facebook and Twitter were the most commonly adopted tools in these university libraries. Most library staff had positive perceptions of the usefulness of Web 2.0 tools, but hesitancy among library staff and limited participation of students were perceived to be hindrances. This study offers insights for academic librarians to make informed decisions in leveraging Web 2.0 tools.

Collins and Quan-Haase (2012) also conducted a study on the “adoption and usage patterns of Web 2.0 tools by academic libraries in Canada” by examining twenty-one (21) academic libraries which are members of the Ontario Council of the University Libraries (OCUL). Their focus was on Facebook, Twitter, YouTube, and Flickr as these were perceived as the most popular Web 2.0 tools used in Canada. Findings revealed that adoption and use of Web 2.0 tools were higher in the South-Western Ontario whilst in the Eastern and Northern Ontario libraries adoption and use was low. The absence of training and funding, lack of interest or skills amongst library staff and poor technological infrastructure were some of the major reasons identified for limited use in the study areas. It was also noted according to their findings that geographical location of an academic library as well as the size of the university affected the uptake and use of Web 2.0 tools. They further observed in their findings that Twitter was the most used tool amongst the academic libraries, followed by Facebook while YouTube was the least used and Flickr was not used at all. The low use of the tools was attributed to the librarians’ tendency of infrequent personal use of some of the Web 2.0 tools themselves thereby rendering the tools irrelevant in a library setting.

Arif and Mahmood’s (2012) study, using a Web-based questionnaire to investigate the changing role of Pakistani librarians in the digital world revealed that the most popular Web 2.0 tools adopted by librarians in their professional and personal lives, were IM, Blogs and Wikis. Buigues-Garcia and Gimenez-Chornet (2012) also indicated, the most implemented Web 2.0 tools in libraries are Facebook or Twitter and user information services such as RSS, publication of bulletins, blogs, or digital/virtual libraries. However, the study did not indicate the popularity behind the use of Web 2.0 from a user’s perspective, only from the digital librarian side.

Literature reviewed demonstrates that there are differences in the adoption and use of different Web 2.0 tools in library settings across the world. In most of the studies, Blogs and IM seem to be the most commonly adopted tools. Blogs were the most popular Web 2.0 tools in the study of academic and public libraries in North America, Europe, and Asia (Chua &

Goh, 2010) as well as in the US, while social networks were also popularly adopted by libraries in the US (Mahmood & Richardson, 2011; Rogers, 2012). Blogs are popular amongst libraries because they do not require the user to understand HTML, thus are easy to create. Libraries have adopted blog technology because they provide a versatility and ease of use that was previously unavailable to librarians who do not often have the skills or the authority to make regular updates on their library website (Pacheco, Kuhn, & Grant, 2010).

The increased adoption and use of IM could be attributed to it being on the spot communication tool. Anttiroiko and Savolainen (2011) revealed in their study that instant messenger services, RSS feeds and Twitter were used to communicate with users quickly, with instant messaging services being specifically used for reference services. Blogs, wikis, YouTube and Flickr were used for content sharing, whilst social networking sites were used to provide news to users (Anttiroiko & Savolainen, 2011).

Han and Liu (2010) in their study revealed that RSS was one of the main tools in academic libraries in China. However in Africa, studies revealed that Facebook was the most popular Web 2.0 tool in Kenya's libraries, followed by Twitter, RSS, SlideShare, YouTube, Flickr, and blogs; in Tanzania, Facebook was also the main tool adopted by libraries, followed by Twitter, blogs, and Google docs (Muneja & Abungu, 2012).

Furthermore, studies in Africa though quite low, show that academic libraries are embracing the application of Web 2.0 tools in Western Africa (Samb, 2011), South Africa (Mugwanya, Marsden, & Boateng, 2011; Unwin *et al.*, 2010), Zambia (Banda, 2011), Tanzania (Lwoga, 2012) and Kenya (Otiike & Maina, 2013). Kwanya *et al.* (2012b) also studied the application of Web 2.0 tools by libraries in Kenya. Findings revealed the highest rate of adoption was amongst academic libraries where five out of seven (71%) have adopted the tools. They suggested that the adoption and use of Web 2.0 tools seem to have been largely influenced by; the size and composition of user community, perceived demand by the users for quality services and the size and nature of budgetary provisions. Baro, Ebiagbe *et al.*, (2013) using a survey questionnaire in their comparative study on university libraries in Nigeria and South Africa observed in their findings that there are differences among the librarians in Nigeria and South Africa concerning the purposes for which the librarians use Web 2.0 tools. The study revealed that 86.1% of the librarians in South Africa use the Web 2.0 tools for announcing library news or events to users, while only 28.1% of the librarians in Nigeria use Web 2.0 tools for library news or events. Despite the differences noted in both countries, the

study however concludes that librarians use the Web 2.0 tools such as Facebook, Twitter, Blogs, IM, RSS feeds, Wikis and YouTube to render library services and communicate library news and events to their users.

Reviewed literature in this section shows that there is high rate of adoption and implementation of Web 2.0 tools by academic libraries that is influenced by the type of tools available for use, anticipated demands of users and the enabling environment (Diyaulu & Rifqah, 2015; Echeng & Usoro, 2014; Tom Kwanya, Stilwell, & Underwood, 2013; E. Lwoga, 2012). The literature reviewed also revealed that most studies have focused on adoption and use of Web 2.0 tools; librarians' perspectives on use of these tools; and how academics are using Web 2.0 tools for teaching and learning. However, the literature has focused less on the effectiveness of Web 2.0 tools in marketing academic library services. This study therefore, focused not only on librarians' views but also students' views on the use of Web 2.0 to market library and information services.

3.5 Web 2.0 Tools Used for Marketing Academic Libraries Services

Marketing and promotion have always been of prime importance with libraries rapidly recognising that doing this well will increase their prominence to users. Over the years, the methods for marketing have evolved and changed, moving from the linear style of print materials, to incorporating more of the fluid and multilateral approach of Web 2.0 (Cole, Graves, & Cipkowski, 2010). Marketing in the context of libraries, does not merely mean promoting and diffusing the services or developed products they hold but it is an action of literally creating awareness among the users about the offered information sources and services in a dynamic environment of ever-growing needs of users (Muruli & Gireesh Kumar, 2013).

Numerous innovative studies on the uses of Web 2.0 tools, such as Facebook, Twitter and YouTube, to support and market library services are increasing (Alkindi & Al-Suqri, 2013; Chu & Du, 2012; Ismail, 2010; Kumar, 2013; Park, 2010; Tedd, 2008). According to Alkindi and Al-Suqri (2013) at a time when Web 2.0 applications in libraries have gained growing popularity globally, it appears that the library must consider marketing its services more regularly through the Internet, taking advantage of Web 2.0 applications to improve access to its users and to promote information services.

The emergence of Web 2.0 can be identified first in the growth of blogs, and subsequently a host of social networking sites including Facebook, iGoogle, Plurk, Twitter, YouTube among

others. By offering to people social interactions and recreation, social networking applications have motivated people to constantly contribute their time and money towards building a virtual world (Shin, 2010b). Several studies such as Cheung, Chiu and Lee (2011), Hsieh, Kou, Yang and Lin (2010), Yang and Lai (2010) have explored the various utilisation of Web 2.0 applications for marketing library services. Libraries have realised that Web 2.0 tools can help them achieve their mission of engaging with the community and have adopted and implemented some of these tools for marketing purposes (Smeaton & Davis, 2014). To further buttress this, Hinchliffe and Leon (2011); Moulaison and Corrado (2011) opined that to keep pace with evolving information technologies, librarians use a group of software applications including blogs, wikis and podcasting; media-sharing tools such as YouTube and Flickr; and social networking services such as Twitter and Facebook to market their services and resources with mixed success.

Some of the information services that are available for marketing through the use of Web 2.0 tools are online information searching, CD-ROM literature searching, CD-ROM databases, compilation of reading list (help to accelerate information retrieval and dissemination process), new arrivals, interlibrary loans, information analysis (interpretation, synthesis, evaluation and repackaging of information or numerical data), bindery services, renewals, translation services, and photocopying/reprographic services. Others are audio/visual services, power access to online database, power point presentation of seminars/lectures, video coverage, e-mail services, Internet services, compilation of bibliographies (based on subjects), document delivery services (print and electronic), indexing and abstracting, inter-library loan services, current awareness services, access to other library catalogues, selective dissemination of information (SDI), referral services and others (Oduwale, Idowu, & Ladipo, 2012).

Deyrup (2010) demonstrated that Web 2.0 applications can be used for marketing purposes. He concluded that librarians are using SNSs like Myspace and Facebook to promote library affiliation and community building; virtual environments such as Second Life to create alternative library spaces; and RSS feeds, wikis, and blogs to post announcements and post other information. Navik and Amin (2011) observed that the use of Web 2.0 in marketing of library services enables the library to keep in constant touch with the users. Further, the librarians are able to read the needs of the users and this leads to helping them develop products and services that will meet their needs. Moreover, using Web 2.0 for marketing

leads libraries in building a program of communication whereby they are able to express the organisation's purpose.

Kim and Abbas (2010) conducted a study on 230 academic library websites and 184 randomly chosen users on the adoption of Web 2.0 in academic libraries in the United States. Their findings indicated that RSS was used to inform users about library news, such as changed library hours, new books, and/or special events and blogs allowed users to comment on books or issues and making communication a two-way exchange. Similarly, Breeding (2010) asserts the use of Twitter and Facebook as marketing tools have propelled activity toward the organisation's web presence and strategic services. The key challenge involves encouraging library staff interest in social networking sites that can be leveraged for marketing and promoting library services. He ranked RSS as one of the top Web 2.0 applications for distributing content and further suggested that librarians should think of RSS as a syndication service to distribute content as well as an advertising ploy to lure potential users to visit the library website.

Jacobson (2011) in a study of 12 libraries Facebook pages, noted that libraries often consider Facebook a vehicle for six different uses: announcements/marketing, reference services, forum for users, RSVP for events, OPAC/database search, and employee communication. Comparing these six envisioned uses with the actual content on the libraries' Facebook pages, the author concluded in the findings that many libraries are using Facebook primarily as a marketing tool and it may be valid to assert that this is currently the best use in the library realm.

Ramos and Abrigo (2012) also highlight that when Web 2.0 comes to reference services in academic libraries, students and faculty members have chosen to go online: Ask-a-Librarian, web forms, e-mail and Facebook. For instance, a library that uses Web 2.0 can provide users with services such as chat-based reference, facilitate their participation in virtual discussions, and help them interact with other reference librarians. As a result of Web 2.0 facilities, Web 2.0 related technologies in libraries have gained increasing popularity globally (Han & Liu, 2010). To further buttress this, Chan (2012) states that the use of Web 2.0 offers a reduced cost towards advertising library services. For instance, Facebook advertisements can be used to promote links and resources beyond the Facebook system. By linking to an external URL, advertisements could potentially bring library services to the attention of users that do not

frequent those channels regularly used for marketing the library. This includes the library website and the university's e-announcement system (Chan, 2012).

Khan and Bhatti (2012) explored how different types of social media applications can be utilised to market library services. Librarians and LIS school academics at two universities in Pakistan identified which Social Media applications were viewed as positive for the promotion of library services. Facebook, wikis, LinkedIn, blogs, and YouTube were all recommended. Although, their study only surveyed information professionals to gather popular opinions on social media, it does shed some light on how Social Media is viewed among other professionals. However, the user perspective is equally important when selecting social media applications for library service use. Khan and Bhatti (2012) opined that libraries can market their services and products using different social media platforms; for example, they can publicise their different upcoming events and newly acquired information materials through the Facebook. Different programs such as conferences and workshops can be marketed by uploading videos on the YouTube. The pictures of different library events and services can be shared using Flickr.

Blogs can be used to market library services among distance learners. Twitter and IM (Instant Messaging) can be used to market a library's reference/research services. Using such tools, libraries can publicise newly acquired material and create service alerts (Khan & Bhatti, 2012). Witte (2014) in a study of 20 American academic libraries found that most user comments came from institution employees or alumni rather than current students. The study interestingly demonstrates that library user response on Web 2.0 was inversely proportional to the type of content most frequently posted by librarians. Although posts from librarians that shared links and content from other Facebook users were the least frequently posted type of content, library users responded to these more than they did to the posts about library information, which the librarians posted about the most (Witte, 2014).

Another study by AlKindi and Al-Suqri (2013) explored the use of SNS as marketing and outreach tools by library and information services. Twenty public libraries that have Facebook pages were selected as subject samples. The study found that the libraries used these technologies for marketing purposes, including marketing the library itself, marketing information services, marketing information resources, and marketing people knowledge and skills. As previous studies have shown, some libraries were more aware than others of

Web2.0 technologies. Furthermore, most of these libraries adopted SNS, blog, RSS, IM and wikis in their services, and they used them to provide and enhance their services.

Merčun and Žumer (2011) in looking into some of the principles and pitfalls of Web 2.0 and the characteristics of user behaviour in the 2.0 environment, opined that Web 2.0 era enables libraries to have a more individual approach also in the online environment, not only in the provision of services, but also in marketing library services and holdings. Personalisation and customisation options help in making the user's interaction with the library system more satisfying, efficient, at the same time facilitating direct, one-to-one marketing. Facebook, Twitter, blogs, or Flickr have repeatedly been associated with the marketing potential for library services, but librarians sometimes forget that there are also other Web 2.0 tools that can help not only promote the library but also library collections. Personal recommendations, RSS feeds on chosen queries, similar items, user lists, and tags are features that are also important from the marketing perspective as they bring forward potentially interesting items and show users the richness of library collections (Merčun & Žumer, 2011).

Yi's (2014) investigation on "Australian academic librarians' perceptions of effective Web 2.0 tools used to market services and resources" revealed that when marketing services and resources, librarians actually used a variety of Web 2.0 tools. The study demonstrates that librarians had varying perceptions of effective Web 2.0 tools used. Demographic variables such as gender and age, human capital variables such as education level, number of different library professional positions, years of present position, and attending a workshop on marketing in the last 5 years and library variables such as number of library staff and number of total library population were significant predictors of the librarians' perceptions of the effective Web 2.0 tools used, but the study indicated that other independent variables such as years involved in all library services, number of library branches, and formally studying marketing made no difference.

Empirical studies on various Web 2.0 tools used to market academic services have been reviewed in this section. The current study sought to ascertain Web 2.0 tools used to market academic services in South-South Nigeria and the purposes for which Web 2.0 tools are used.

3.6 Benefits of Using Web 2.0 to Market Academic Library Services

Various literature have outlined the benefits of adopting and integrating social media, or Web 2.0 technologies with library services. These include increased engagement with users and transition from one-directional communication to more collaborative user involvement

(McLoughlin & Benn, 2013). Kelly and Paul (2009) underline both the need to raise staff awareness of the potential of Web 2.0 services and the need to ensure that the services succeed in enhancing the services provided to the user community, as well as carrying out a research focusing on meeting such needs. Blackburn (2011) asserts that Web 2.0 enables librarians to improve their lives through such exercises as blogging about their favourite hobbies, updating public wikis, following news stories on RSS feeds and keeping in touch with friends and family on social networks. This generation would be lost if this access was suddenly taken away because few remember a world where such capabilities did not exist.

On the other hand, as Mahmood and Richardson (2011) affirmed, the applications of Web 2.0 have opened new avenues for libraries as they have enabled them to involve users in their activities and solicit their feedback for improvement in service delivery. The trend in their study shows that all libraries will adopt Web 2.0 tools for enhancing the quality of their services. Their study further indicates that libraries have understood the importance of adopting and using various tools of Web 2.0 and academic libraries have adopted these technologies to varying degrees. It allows users to transition from the static to the dynamic web technologies both in using and developing web applications. Due to its easy access to the Internet through computers, cellular, and handheld devices Web 2.0 tools enable users to develop a collaborative virtual society to share information interactively (Hossain & Aydin, 2011).

The benefits of Web 2.0 according to Muneja and Abungu (2012) include reaching a vast audience in virtual sphere than would be possible at a physical location. Secondly, raising awareness and promotion, Web 2.0 tools can be updated quickly and published instantly. For instance, by using blogs or micro-blogs, librarians can go straight to the users with news and up to date information related to new services, materials or services development. Fourthly, for professional development; librarians use the Internet to communicate, share ideas and offer support for a long time through use of Web 2.0 tools which present opportunity for large-scale professional collaboration and cooperation. They concluded that Web 2.0 is proving to be the engine of change for academic libraries by helping library professionals to organise their materials and enhance user services (Muneja & Abungu, 2012).

Buigues-Garcia and Gimenez-Chornet (2012) claimed that one of the most interesting advantages of the implementation of Web 2.0 is the interaction between the libraries and the users. Users can be continuously informed about the activities taking place in the library, the

events that are occurring, what collections are available and receive selected information about the things they are interested in. In this way, the library can be visited (virtually) and followed by both local users and users from distant countries. Web 2.0 tools according to Makori (2012a) provide the necessary platform that helps information professionals to take services to where the patrons and researchers are. Web 2.0 tools also provide patrons with the opportunity to be actively involved in information practices through online collaboration, communication, and sharing of information and knowledge. Furthermore, Web 2.0 tools have helped to bridge, expand, and promote information services to the patrons in university libraries. Other prospects or opportunities of Web 2.0 systems in university libraries include promoting knowledge society, supporting open distance and e-learning, promoting online collaboration, communication and sharing, marketing of information services and positioning of university libraries in the twenty-first century (Makori, 2012a).

Tripathi and Kumar's (2010) survey on an international landscape on the use of Web 2.0 tools in academic libraries indicates that most academic libraries are experiencing greater benefits of using Web 2.0 tools whilst a few had not adopted these tools. The study concluded that librarians should utilise Web 2.0 tools to enhance services in an innovative manner and address the information requirements of the techno-savvy patrons. Similarly, it has been observed that social media has the potential to facilitate much closer relationships between libraries and their patrons, irrespective of wherever users are based, and however they choose to learn about and access library services and resources (Taylor & Francis Group, 2014).

The main opportunities associated with libraries using Web 2.0 tools as observed by Taylor and Francis Group (2014) are seen to be related to its low cost, its ability to take the library services to users in their preferred spaces, the opportunity to build a sense of community between the library and its users, to support co-development of collections and help keep librarians updated on industry news and initiatives. Similarly, using Facebook as a case study, Alonge (2012) explains how social networking as a new tool in information management, can enhance library outreach and librarians' collaboration. He further elaborated on the capability of Web 2.0 in information management for creating future prospects, opportunities for library users, information, and library professionals. He concluded that social networking sites could be effectively used to disseminate information, promote a pleasant professional relationship among librarians and library users, and encourage academic collaboration.

Similarly, the findings of the study conducted by Chu and Du (2012) indicate that the benefits of using these tools are perceived to outweigh the costs, which were reported to be minimal, if not none. Social networking tools were perceived to be helpful in promoting library services and interacting with students. Moreover, the tools were also reported to be helpful for internal staff communication. Web 2.0 tools can provide different functionalities that manage, promote, and communicate with users. Some applications can play more roles than others. For instance, blogs can provide information sharing, peer-to-peer connections, and marketing and promotion. Conversely, Pinterest provides peer-to-peer connection opportunities, but would not serve as the best tool to promote a new digital collection. This does not imply that an institution should not announce a new digital collection by creating a new board, but other Web 2.0 tools such as Twitter or Facebook may be more efficient channels (Xie & Steveson, 2014).

Librarians were asked in the survey by Taylor and Francis Group (2014) on the tools they used their activities and report on their effectiveness. For management, Hootsuite was widely used for (44% of respondents were using this tool), followed by Tweetdeck (23%), then Feedly (12%). For measuring impact, Google analytics was most commonly used (27%) followed by Facebook's own statistics (25%), surveys (15%), tracking numbers of followers (11%), and Twitter's own statistics (5%). They further discovered that over seventy percent (70%) of libraries were using social media tools, and sixty percent (60%) had a social media account for three years or longer. Thirty percent (30%) of librarians were posting at least daily. They found that Facebook and Twitter remained the most popular channels but the range of channels being used is expanding rapidly including visual channels such as YouTube, Pinterest, and Snapchat.

Web 2.0 tools are low-cost and can be easy to set up and use without specialised programming help. They improve two-way communication with users, who own mobile devices with wireless application protocol (WAP). The features of the Web 2.0 tools, therefore, make them easily accessible by anyone with an internet-enabled mobile device. Web 2.0 tools do not require much bandwidth; thus, it is very easy to update and affordable. Web 2.0 tools offer more credible and cost-effective connectivity with prospective students and give such advantages as relevance, speed, cost and personalisation (Mahmood & Richardson, 2011; Sloka, Justs Dimants, & Vidruska, 2015). Pan, Bradbeer and Jurries (2011) also indicated that some advantages of Web 2.0 include convenience, low cost (in terms of developing the applications and marketing purposes), ability to capture best

practices, collaboration and communication features (bilateral communication). Furthermore, through this application authors can be notified automatically via email about new posts and comments.

The literature reviewed in this section also covered the broader issue on the benefits of Web 2.0 tools in marketing academic library services.

3.7 Effectiveness of Using Web 2.0 to Market Academic Library Services

The efficiency and effectiveness of the library as a tool of research and learning is determined by the success of providing patrons with relevant and timely information. Previously, libraries measured their successes based on completeness and balance of collection (Ayiah & Kumah, 2011). Information marketing involves promoting the information products and services by adopting marketing strategies effectively. The most important objective of information marketing is for the university library to attract current and prospective clients and to encourage them to optimise the products and services available in the library (Kumar, 2013; Kumarjit & Mohan, 2014).

Massis (2014) opines that libraries were early adopters in entering the social media space in connecting with their patrons through various social media platforms. Irrespective of the varying age groups served by the library, it must continue to provide its marketing messages through multiple traditional as well as cutting-edge techniques to reach a maximum audience. The resources to maintain multiple methods of communication to market services to a large patron base are limited. Therefore, it must be utilised strategically and to its greatest effect. In addition, there must be measures set in place so that the library can gauge the effectiveness of using multiple marketing methods.

The Francis and Taylor Group (2014) white paper on the “use of social media by the library current practices and future opportunities” asserts that there is limited information available on the overall effectiveness of social media within the library in terms of achieving specific measurable goals. Some case study-based reports have been able to demonstrate increased borrowings from the library, and many of the librarians spoken with cited ad hoc examples of success. They further indicated that the frequency of postings and responsiveness have also been linked in several studies to high user engagement. All the librarians they spoke with agreed that it was difficult to prove return on effort and that the time required in doing this was a major barrier to more comprehensive analysis of impact.

However, some libraries are beginning to use social media management and reporting tools like Hootsuite⁶ to assist with this, but the lack of any common framework for evaluating Web 2.0 impact in the library in a more structured way means that benchmarking opportunities are limited. Several recently published studies have begun to propose a framework for evaluation, so it is likely that assessment against commonly agreed metrics will become an increasingly important part of Web 2.0 activity within the library in the near future (Taylor & Francis Group, 2014).

In table 3.2 below, are indicators of the profitability of using Web 2.0 tools especially in the areas of strategies/tactics and business objectives. Business objectives considered here are: 1) Reach the target audience; 2) Activity frequency of the library in Web 2.0 environment; 3) Customer loyalty, web traffic from Web 2.0 tools; 4) Influence, brand perception; 5) Engagement, interaction; 6) Conversion rate, sales, use of the library thanks to Web 2.0 tools (González-Fernández-Villavicencio, 2014).

Table 3.2: Indicators of Profitability of using Web 2.0 Tools Classified by Strategies
(Source: González-Fernández-Villavicencio, 2014)

STRATEGIC OBJECTIVES	TACTICS OBJECTIVES	INDICATORS
Visibility	Reach (Audience)	Sum of Audiences
Visibility / Inversion	Frequency of activity	Sum of Web 2.0 Activities
Loyalty	Loyalty: Traffic to the web from Web 2.0 tools	Sum of Loyalty Ratio of Loyalty
Perception	Influence: Indices and Brand Mentions	Sum of Influence Sum of Influence Indices

⁶**Hootsuite** is a social media management system for brand management created by Ryan Holmes in 2008. The system's user interface takes the form of a dashboard, and supports social network integrations for Twitter, Facebook, LinkedIn, Google+, Foursquare, MySpace, Wordpress, Trendspootr and Mixi.

Return Not-Roi	Engagement, participations, Interaction, Influencers	Sum of Engagement
Return Roi	Conversion, Financial value	Sum of Conversion Sum of Conversion Web
Reputation / Return Not-Roi	Reach, Loyalty, Influence, Engagement	Sum of Reach, Loyalty, Influence and Engagement

Brief descriptions of core concepts included in Table 2 are explained below:

- Reaching the target audience objective includes all types of audience in social media such as number of followers, contacts, friends, or fans. These metrics offer an insight into the value of the brand (or any library) being created for those communities, as well as the size of the captured audience that receives regular messages, deals and promotions, and content from the library.
- Activity frequency of the library in social media includes every publication from the library both on their own social media spaces and in other social media spaces belonging to the community. It is one of the parts of the inversion libraries.
- Customer loyalty, web traffic from social media refers to how many people were directed from social media sites to the reference web, the total amount of web traffic coming to the website from shared links, and how long the target audience remains there. Notice that the bounce rate (number of visits) is a very important indicator in this context.
- Influence or brand perception refers to the social periodic impressions in social media. The most important indicator is Brand Mentioning. It includes some commercial reputation and influence indices like Klout, Social Mention, or PeerIndex.
- Engagement, interaction. This is a very important metrics because it measures the capacity of relationship between the user and the user with the brand in each social media (Retweet (RT), share, downloads, and comments). However, it is crucial to

make a difference between positive, neutral, and negative mentions and comments. In addition, it is very important to consider absolute indicators next to percentages or ratios, due to the relative information they provide (Engagement rate). This is the Social ROI (Return on Investment) or IOR (Impact on Relationship).

- Conversion rate, sales, use of the library thanks to social media. This is the financial ROI, the ultimate objective in social media, and in fact the most important. Mindomo is a tool created as a mind map with tools for monitoring and assessing the indicators (González-Fernández-Villavicencio, 2014).

The importance of effectiveness, efficiency, and satisfactions could also be viewed as “critical measures of usability” (Barnum, 2011) as regards the use of Web 2.0. The operational definitions of these three measures are:

- Effectiveness: Measures how the Web 2.0 tools help librarians and patrons accurately complete essential tasks. Since errors (human or system related) influence the security, reliability, and completeness of tasks, this measure includes the software’s error handling capabilities.
- Efficiency: Measures the user’s return on investment with the use of Web 2.0 tools. This includes how fast users can orient themselves to the tools, and how fast the user can accomplish or access related information or tasks after orientation. It also includes the ability to memorise.
- Satisfaction: Measures if users are comfortable, or pleased with the tools. This will determine whether they would use it or not (Barnum, 2011).

Golz (2014) employing a mixed method approach gathered data from library websites, library social media posts, and a survey of library leaders in 112 Californian community college libraries to explore how California community colleges used Library/Web 2.0 technologies such as social media, chat reference, and text messages. The results revealed that a majority of California community college librarians rated LibGuides as effective or highly effective; whereas Facebook was most commonly rated as only somewhat effective. Most of the librarians in the study agreed that social media could be an effective platform to promote library programs and events to students and that social media could be an effective outreach tool. The study reported barriers to the implementation of new technologies to include the lack of staff time, limited budgets, lack of staff training, and institutional policies.

Garoufallou, Zafeiriou, Siatri and Balapanidou (2013), examined the current situation in Greek academic libraries. The findings of the study indicated that Greek librarians noted that marketing approaches can be effective if they are correctly incorporated into their work. Dickson and Holley (2010) examined the use of the major social networking tools in academic libraries in the United States. Their paper focused on concerns about use both from students and within the academic library. Findings were summarised from published articles found in the Library Literature and Information Full Text database since 2006. The results revealed that social networking can be an effective method of student outreach in academic libraries if libraries take care to respect student privacy and to provide equal coverage for all subject areas.

Sachs, Eckel, and Langan (2011) surveyed patrons at Western Michigan University to determine if the library's page was achieving its objectives in the areas of marketing, reference, and instruction. They concluded that their Web 2.0 presence had only been effective as a marketing tool based on student responses. Notably, they also asked students what types of information they would like to see posted on the library Facebook pages. Of the four post types listed, two earned a 90% approval rating (library events and information services) and two earned a 70% approval rating (specific resources and research tips). All four of the post types referred specifically to library-created content. The results of their survey of peer institutions indicate that the most common library-oriented use of Facebook is for the promotion of events and services. All of the respondents indicated that their primary goals for Facebook involved improving communication and awareness of the library. Hagman (2012) observed that a library Web 2.0 initiatives will only be as successful as the research conducted on its usage within the library user group. For example, do the geographical location, age, and ethnic profile of library users match those who use or tend to use Web 2.0 tools often? If so then it is likely that Social Media initiatives have the potential to be effective.

In terms of Web 2.0 tools being effective tools for collaboration, Sun and Puterbaugh (2013), in their study on using Social Media to promote international collaborations using a university librarian from the United States of America and another university librarian from China to develop an information tool (Libguides) that could be used by faculty and students at both institutions, noted that Social Media applications proved to be indispensable in an international online collaboration. Using tools/applications such as Instant Messaging, Facebook, and mostly Skype to communicate, findings indicated Skype made the online

collaboration more effective. They concluded the study by stating that Social Media has widened the channels of communication and promoted the possibility of international engagement and collaboration. The potential benefits available for the institutions, their libraries and librarianship in general according to the study is that it allows librarians at various institutions to achieve something larger than either one could achieve on their own.

Many libraries are finding that when used properly, Web 2.0 tools can be effective for saving money as well as promoting library services and collections. Hence, Web 2.0 tools are increasingly becoming an important requirement for libraries (Tella, Olarongbe, Akanbi-Ademolake, & Adisa, 2013). Garoufallou and Charitopoulou (2011), in an attempt to ascertain what the Greek Library and Information Science students want from their studies concerning the use of Web 2.0 in education conducted a study that revealed most of the students are aware of the majority of Web 2.0 tools. Thus, they are willing to attend training concerning Web 2.0 because they believe this will enrich their knowledge on the subject. Blogs and wikis are the first choices of the tools they would like to learn about. Students believe that computer scientists are more qualified to teach Web 2.0 tools, while some respond that cooperation between librarians and computer scientists will be to the benefit of the profession. As advantages of using Web 2.0, they name acquiring new knowledge and facilitation with the assignments.

The literature reviewed in this section shows that the effectiveness of Web 2.0 tools is not only determined by librarians and such indices as; measure of reliability, completeness and security; the efficiency of Web 2.0 tools ease of accessing information, the fastness of completing a task and return on investment; but also by satisfaction of users with the tools. Hence, to address gaps in this regard student respondents were asked questions such as: what kind of information would you like to see on a Web 2.0 application in your academic library? Which methods could be used appropriately to market academic libraries to you?

3.8 Challenges of Using Web 2.0 to Market Academic Library Services

Some of the major weaknesses identified in marketing academic library services were factors such as lack of marketing education, seminars and training courses, resistance to change, budget cuts. Garoufallou *et al.* (2013) indicated in their findings that, although the majority of the librarians showed an appreciation for the concept of marketing, they also had limited exposure to marketing education, and therefore, have a long way to go in order to fully understand its procedures and integrate it into their strategic planning. Also, the absence of

any formal education, seminars or workshops on marketing and managerial topics hinders strategic planning in Greek libraries in conjunction with lack of appropriately educated staff and funding (Garoufallou, Zafeiriou, *et al.*, 2013).

The considerable time that is required to maintain an active social media presence, the pressure to respond instantly to service queries, the variability of skills across library staff for using social media effectively, striking the right tone between professional and personal, coordinating activities across the institution to avoid duplication, maintaining visibility for the library brand and copyright issues relating to hosting library resources on social media sites were also challenges of using Web 2.0 tools as listed by Taylor and Francis Group (2014). Gross and Sheridan (2011) noted that libraries need to make themselves more a part of the search process again. Since digital media has become so accessible, fewer and fewer searches start at the library; thus, academic libraries need to maximise resource use by reducing users' frustration. Although academic library websites have been observed to provide higher quality and better scholarly information than previously, they face competition in the area of user preferences. The massive growth of Internet sources and new searching and sharing tools seem to provide users with power, ease, and fun in information seeking. Furthermore, libraries face a new generation of users who are technologically savvy and utilise information in different spheres of their life (Aharony, 2012).

However, Merčun, and Žumer (2011) observed that because of the network effect and critical mass of participants in many of the Web 2.0 tools, libraries themselves could also benefit from employing the “2.0 philosophy” of collaboration and shared services. As libraries often serve a rather small community and have quite a limited amount of resources, their Web 2.0 services do not reach their full potential. It may happen that poorly implemented or maintained features will only make users question the quality of library services. On the other hand, optimal application of Web 2.0 tools by librarians requires the identification of factors affecting the adoption of its tools by librarians. This is what has been stressed by Merčun and Žumer (2011), that is, past experiences have shown that applying Web 2.0 features did not always bring out the desired effect, mainly because creators did not put into consideration the necessary 2.0 requirements, the context of use, or what they even wanted to accomplish.

Lwoga (2012) in a study using a combination of content analysis and semi-structured interviews collected data from ICT personnel from six of the eight public universities in Tanzania to understand the adoption of e-learning and Web 2.0 technologies. The results

showed that these technologies were still in their infancy. Besides, the universities faced a number of challenges in the adoption of these technologies due to poor technological infrastructure and prohibitive cost of educational technologies; lack of awareness and poor attitudes towards e-learning; the lack of local expertise in curriculum development for e-learning; and the lack of ICT technical support to support e-learning initiatives.

In the Taylor and Francis (2014) survey, when asked to rate a number of challenges relating to the use of Web 2.0 tools by the library, the most significant challenges were seen to be: (a) time/resource (67% felt this was a challenge), followed by (b) judging an appropriate tone for communications (formal v. informal; 64% felt this was a challenge), and (c) making people aware of the library's social media activities (61% felt this was a challenge). On the subject of an appropriate tone for social media communications, most participants in the focus groups agreed that while it was important to maintain a professional tone, it was equally important to show a fun side at appropriate moments too, enabling the library to connect with its users in a human and engaging way, to supplement more formalised communications.

Similarly, Arif and Mahmood (2012) considered three factors including lack of computer literacy, lack of training programs and low availability of computers and Internet facilities that have an impact on the adoption of Web 2.0 technologies by librarians. The frequency of use revealed that Pakistani librarians were generally less inclined toward adoption of Web 2.0 technologies. In addition, "skills" factor (librarians' skill in the English language, and the importance of familiarity with information technology to apply Web 2.0 in libraries) was one of the main factors affecting the use of Web 2.0 tools. Isfandyari-Moghaddam and Hosseini-Shoar (2014) noted that "organisational resources" (library budget, the flexibility of manager in the purchasing and providing Web 2.0 facilities for librarians, increased salary of librarians, and library management system) may affect the adoption of Web 2.0 tools by librarians. They also identified lack of computer literacy, low availability of computers and Internet facilities were the big hindrances toward adoption of Web 2.0 technologies by librarians.

Sawant (2012) investigated LIS instructors' familiarity with Web 2.0 concepts, tools and services, and applications related to LIS education. It was found that LIS instructors, in some Indian universities, have a low level of familiarity regarding the use of Web 2.0 and the main problem in use of Web 2.0 in teaching was the lack of training programs organised by universities and other institutions for instruction in the use/teaching of Web 2.0 tools. Arif

and Mahmood (2012) conducted a study on the adoption of Web 2.0 technologies by Pakistani librarians. The results revealed that the frequency of use of these tools by Pakistani librarians was generally low and that they were less inclined toward adoption of Web 2.0 technologies. Lack of computer literacy, low availability of computers and Internet facilities were the big hindrances toward the adoption of Web 2.0 technologies by librarians. They suggested training programs could enable a librarian to cope with the Web 2.0 technologies.

Despite the many benefits accrued by the adoption and use of Web 2.0 tools, it appears the adoption, implementation and use of these tools by African academic libraries remains at a very low level (Baro, Ebiagbe, *et al.*, 2013). Thanuskodi (2012) attributed the challenges of using Web 2.0 tools to factors such as inadequate training opportunities, lack of knowledge, privacy and identity theft, slow speed of Internet and electricity failure as some of the problems that hinder the adoption and application of social media tools in academic libraries. Although some of the librarians with necessary computer skills were increasingly using these tools, those lacking such skills shunned them. Other hindrances to the use of Web 2.0 include lack of knowledge and skills of staff with equipment and infrastructure, lack of Internet facility and lack of staff commitment and cooperation. Only a few librarians indicated that willingness to change; time availability, proper planning and library and user collaboration had any effect on their use of social media tools (Thanuskodi, 2012). Ezeani and Igwesi (2012) collaborated in their study that the Internet can be frustratingly slow which then makes the use of social media extremely time-consuming. They further suggested that in such circumstances it is useless or even senseless to adopt and implement these technologies.

Another pressing challenge as asserted by Chu and Du (2012) was that Web 2.0 tools were time-consuming. This was observed by librarians who believed that Web 2.0 tools are too technical and thus, they do not find time to learn, explore, and implement these tools since they will be busy with their work demands. Their findings revealed that the librarians complained about the issue of regular updates of Web 2.0 tools as time-consuming. They believed it takes too much time to monitor and maintain too many Web 2.0 tools. Barriers such as lack of funding for training and resources, limited infrastructure, lack of library-centred social media policies, inadequate knowledge and skills among information professionals, inadequate support from the management (Makori, 2012b), lack of time by librarians to use social media, and lack of interest among librarians (Banda, 2011), moral and ethical issues in Web 2.0 environments which are related to privacy, confidentiality, safety, harassment, pornography, fraud, and security (Mutula, 2012) hindered effective use of Web

2.0. Other challenges include inadequate awareness and Internet skills; inadequate financial resources; and a shortage of trained ICT and library staff, lack of supportive policy or guidelines, lack of security and lack of ownership of intellectual property of Web 2.0 services (Aduko & Dadzie, 2013; Ezeani, 2011; T Kwanya et al., 2012b; Muneja & Abungu, 2012).

Mazzocchi (2014) observed that the typical functions of Web 2.0 tools (user centricity, interactivity, participation, collaborative construction of content), which, compared to the traditional website, could provide something more, remain unused or underused, because the contribution of libraries to the dialogue is too often scarce and untimely, and, above all, because of the lack of participation of users. She concluded that these tools have become antagonistic because their use by libraries does not arise from a serious consideration and from a forward-looking program, but it arises rather from the desire to follow the latest trend in technology which on the one hand is too demanding for the limited human resources of libraries and on the other hand does not meet the interests of users, often becoming a mere diversion for librarians themselves. Mahmood and Richardson (2011) observed in their study, that there were some problems in the use of Web 2.0 tools such as e doubts regarding the longevity of tools, lack of staff time for maintenance, lack of standardisation, institutional barriers in implementation, lack of staff training, and information overload.

Although there seem to be many libraries globally engaging with Web 2.0 tools as observed from literature, only a small number of libraries appear directly interacting with users to create and share content through these tools. Oyieke's (2012) study on leveraging university libraries through Web 2.0 indicated that although libraries in Kenya had a link to Twitter and Facebook, only 19 percent of the university libraries showed active usage of Facebook and Twitter pages for marketing and creating awareness. These concerns have become more challenging especially in the academic and research environment where each user has different needs and interests. Ghali, Panda, Hassanien, Abraham and Snasel (2012) in a study –Social Networks analysis” concluded that the use of social networking services have excited institutions with their potential in a variety of areas but there exist a number of challenges for institutions including long-term sustainability of the services; user concerns over use of social tools in a work or study context; a variety of technical issues and legal issues such as copyright, privacy, accessibility. They suggested institutions should be advised to consider carefully the implications before promoting the significant use of such services. A clear understanding of the structural properties of a criminal network may help analysts target critical network members for removal or surveillance, and locate network vulnerabilities

where disruptive actions can be effective. Appropriate network analysis techniques, therefore, are needed to mine criminal networks and gain insight into these problems (Ghali *et al.*, 2012).

The literature reviewed in this section revealed a number of challenges related to adoption and implementation of Web 2.0 tools. To find ways of how to address some of the challenges, both librarians and students' respondents were asked to suggest the best ways to implement and optimise Web 2.0 tools in marketing academic library services.

3.9 Ways of Optimising the Use of Web 2.0 Tools to Market Academic Library Services

Luo *et al.* (2013) asserted it is important for libraries to recognise the potential of digital technology in marketing and understand how to use it to achieve marketing goals; understanding the technicality of a technology, such as its functions, features and characteristics. Secondly, understanding how people use it for communication and social purposes. For instance, when exploring a video-sharing site such as YouTube as a marketing platform, libraries need to not only figure out how to create an account, upload, and share a video, but also become familiar with the behaviour, culture, and etiquette of the user community. It is not sufficient to just “go where users are” but the library need to make its presence relevant and useful.

For the use of Web 2.0 tools to be effective, a plan needs to be integrated into the Institutional strategic plan. Setting goals is the first step. Many libraries choose to skip over, believing that their mere presence on a social media is the only goal. However, as argued by some, “do not allow your library to enter social media without knowing what it wants to get out of it” (Solomon, 2013). The objectives have to be SMART: 1) Specific, rather than generalised; 2) Measurable, be clear in the objective about what will be changed and by how much. Setting this clearly at the start makes it easier to evaluate; 3) Achievable, be realistic about what the program can achieve in terms of the scale/scope of what is being done, the time and resources available; 4) Relevant, objectives need to relate to and be relevant to the goals; 5) Time Specific, be clear in the objectives about the time frame in which the program/activities will take place (González-Fernández-Villavicencio, 2014; Wilburn & Wilburn, 2012).

Cho (2013) opines that academic libraries should be using specific Web 2.0 applications that allow new ways of communication. To affirm this, Gu and Widén-Wulff (2011) found that researchers have a variety of information practices, and suggested that librarians need to adopt and incorporate Web 2.0 tools in ways to further scholarly communication. This

perhaps could potentially strengthen information practices and promote services offered by academic librarians/libraries through the incorporation of Web 2.0 tools in digital library collections. Various studies have emphasised the importance of regular Web 2.0 activity as critical for ensuring user engagement. Riza, Ayu and Abrizah (2011) for instance highlighted that prompt response to queries via Web 2.0 are important to ensure continued use of that service. They also observed in their study that libraries that updated their status daily had the highest user engagement (likes and follows).

Columbus Metropolitan Library (CML) built its success by understanding the value of planning, and its Web 2.0 efforts are no exception. Within a space of four years the CML had approximately 3,500 Facebook “likes”. Then the likes increased to 18,500, and later the count is just over 28,000. The amazing growth, as observed by Dowd (2013) was not a surprise because CML had a plan; the staff knew what they wanted to achieve and had a plan to guide them. CML’s Web 2.0 manager’s whole plan fit into four pages and included the goals, tactics, and metrics to take the library through the year. Without a plan to connect your social media efforts to the larger goals of your library, your efforts are guaranteed not to take your library where you need to go (Dowd, 2013).

Horn (2011) also conducted a study on the online marketing strategies for reaching today's teens and found that Web 2.0 applications are the best tools for marketing library collections, marketing the library itself by posting different photos inside the library of computers, books, rooms and so on, and marketing library programmes. Merčun, and Žumer (2011) observed libraries may build better services that will harvest the potentials of Web 2.0 and generate real value through user participation and generation of content by suggesting libraries combine their forces at a certain level (for example public libraries of one region, or academic libraries for the same study area). To maintain continuous and consistent service, Pan *et al.* (2011) reported in their study that the librarians set up a shared troubleshooting mailbox to receive problem reports and a set of guidelines that documents how problems should be reported and tracked within the blog. Each trouble-shooter served on rotating two-week shifts to check e-mails frequently. If a problem can be quickly resolved by the e-mail monitor say in five minutes or less than the problem can be fixed without creating a post. For more complex issues, they notify senders within 48 hours of receipt of e-mail and log the problem in the blog.

Outreach is another important aspect of marketing and promotion. Social media applications that allow for fast updates seem to be the best way for digital librarians to reach their user groups and expand outreach. For example, Facebook allows administrators to post information about their institution. After each post is made, if a user has “friended” that institution, the post will appear in the user’s news feed, thus making it possible for the digital library to appear accessible to the user on an hourly, daily, or weekly basis. Institutions that post more frequently are more likely to have more successful outreach and interactions taking place (Xie & Steveson, 2014).

Isfandyari-Moghaddam, and Hosseini-Shoar (2014) in their study investigated the impact of adoption and use of Web 2.0 tools on providing just-in-time and just-in-demand information services from the end-users’ viewpoint. They suggested that to realise increased social inclusion, and faster adoption of Web 2.0 tools, some other broad categories should be identified and included in the clustering of factors affecting Web 2.0 adoption. They concluded that doing such studies tended to create generally-accepted standards, guidelines, factors (both positive and negative) or adoption criteria concerning emerging technologies like Web 2.0 tools (Isfandyari-Moghaddam & Hosseini-Shoar, 2014). Similarly, Kwanya *et al.* (2012a) recommended the following: develop the requisite standards, policies, strategies, and plans; increase the bandwidth; select appropriate Web 2.0 tools; train librarians and users; and encourage linkages with other libraries.

Another way to ensure Web 2.0 tools are effectively utilised as suggested by Aharony (2012) is to recruit librarians who have a positive attitude towards social media as well as offer training to those librarians who are already serving the library. More so, due to the ever-increasing pace of technological change, coupled with new tools evolving which may sometimes overwhelm librarians, Kwanya *et al.* (2012a) also recommended coping mechanisms such as; workload reduction, training, independence and self-sufficiency from technology to enable librarians to deal with the results of pressures that arise from the use of new technologies.

3.10 Summary of Literature Review

Extant literature was reviewed on Web 2.0 tools used in academic libraries, the tools used for marketing academic library products and services, the benefits of using Web 2.0 tools to market academic library product and services, the effectiveness of using Web 2.0 tools to market academic library services, challenges of using Web 2.0 tools to market academic

library services and ways of optimising the use of Web 2.0 to market academic library services from across the globe.

Literature reviewed in general seem to suggest that academic libraries are increasingly adopting and implementing Web 2.0 tools for various purposes including marketing and promoting library services. Studies revealed there is a wide range of benefits accruing from using Web 2.0 tools to market and promote academic library product and services. As such academic libraries, have been able to produce promotional materials and enhance their services by interacting with users through seamless communication and feedback with the aid of Web 2.0 tools. Most of the services rendered by academic libraries using Web 2.0 tools are included among others library tours, library updates and news, and link to the library catalogue. Although, studies on academic libraries revealed the imperativeness of using Web 2.0 tools to market its services, there are however, some challenges militating against their use for marketing purposes. Some of the challenges are lack of skills and poor infrastructure, longevity of tools, lack of staff time for maintenance, lack of standardisation and policy, lack of institutional support, and information overload.

Despite the challenges and limitations, literature showed that Web 2.0 tools could be effectively utilised to market academic library services provided there are certain measures or policy in place to assess the effectiveness of the tools. However, there are no clear-cut rules or metric, academic libraries can choose tools or methods that work for them. The next chapter will discuss methods and sampling techniques that will guide the study.

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

Research methodology is the general research strategy that outlines the way in which research is to be undertaken and among other things identifies the methods to be used in it. These methods define the means or modes of data collection or, sometimes, how a specific result is to be calculated (Howell, 2013). Shensul (2012) asserts that research methodology is the strategy that researchers use to ensure that work can be critiqued, repeated and adapted. These strategies serve as a guide on the choices researchers make with regard to sampling, data collection and analysis and more.

The focus of this study was to examine the effectiveness of using Web 2.0 tools to market libraries services in selected universities in South-South Nigeria. The following research questions were addressed: what are the Web 2.0 tools used by academic libraries in South-South Nigeria? To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services? What are the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services? What policies do academic libraries in South-South Nigeria have to guide the implementation of Web 2.0 tools for effective marketing of their services?

This chapter discusses the research paradigm, research approach, research design, population of study, sampling procedure, data collection, validity and reliability and ethical considerations.

4.2 Research Paradigm

Polit and Beck (2008) stated that paradigms for human enquiry are often characterised in terms of the ways in which they respond to basic philosophical; ontological, epistemological and methodological questions. It can be referred to as a way of looking at natural phenomena that encompass a set of philosophical assumptions that guide one's approach to enquiry. A paradigm is thus a comprehensive belief system, world view, or framework that guides research and practice in a field (Willis, 2007). A research paradigm is constituted by incorporating different ontological and epistemological assumptions and defined as assumptions made about the nature of social reality and the way in which we can come to know this reality (Blakie, 2010).

Punch (2013) referred to paradigms as a set of assumptions about the world, and what constitutes proper topics and techniques for inquiring into the world. Paradigms have an ontological dimension (concerns with nature of reality), an epistemological dimension (concerned with knowledge about that reality), and a methodological dimension (concern with methods for building knowledge of the reality). Taylor and Medina (2013) noted from a philosophical perspective that, a paradigm comprises a view of the nature of reality (ontology) whether it is external or internal to the knower; a related view of the type of knowledge that can be generated and standards for justifying it (epistemology); and a disciplined approach to generating that knowledge (methodology).

According to Pickard (2013), the three major research paradigms associated with the social sciences are:

- Interpretivism, which holds the assumptions that individuals seek to understand the world they live and work in. They often focus on the specific contexts in which people live and work in order to understand the historical and cultural settings of the participants involved in a study (Creswell, 2008). Interpretivism seeks to understand the entire context, at both the macro and micro environment level. Punch (2013) describes interpretivism as the philosophical position that people bring meanings to situations, and uses these meanings to understand their world and influence their behaviour.
- Positivism, on the other hand, uses scientific methods and language to investigate and document human experiences. Positivism is the philosophical position that objective accounts of the world can be given, and that the function of science is to develop descriptions and explanations in the form of universal laws that is to develop nomothetic knowledge (Punch, 2013). The emphasis of positivism is on quantifiable results that lend themselves to statistical analysis. Positivism as a research paradigm is very well known and well established in universities worldwide. This ‘scientific’ research paradigm strives to investigate, confirm, and predict law-like patterns of behaviour; commonly used in graduate research to test theories or hypotheses. This is particularly useful in natural science, physical science and, to some extent, in the social sciences, especially where very large sample sizes are involved. Generally, its focus is on the objectivity of the research process (Creswell, 2008).

- Post-positivism refers to the thinking after positivism which challenges the traditional notion of the absolute truth of knowledge (Phillips & Burbules, 2000) and recognises the fact that human beings cannot be "positive" about their claims of knowledge when studying their behaviour and actions.

A post-positivist research approach was adopted for this study. Post-positivism advocates methodological pluralism (mixed methods) which is built on the assumption that the choice of a research method is based on the types of research question posed by the research, with the view that each research approach can contribute to the understanding of a general research problem by addressing different specific research problems (Wildemuth, 1993). Post-positivism is rooted in the premise that any perception of reality cannot be an objective picture but is drawn from empirical observation and existing theory. Though there has been a shift in this paradigm the concepts of quantification and generalisation taken from original positivism remain predominant (Pickard, 2013).

4.3 Research Approach

There are different types of research approaches which include quantitative, qualitative or mixed research methods (Creswell, 2008; Edmonds & Kennedy, 2013; Lapan, Quartaroli, & Riemer, 2012). The quantitative research approach is based on the generation and manipulation of numbers using statistical analysis and is typically deductive in nature (Teddlie & Tashakkori, 2009). This implies that researchers design experiments to either confirm or reject a pre-determined hypothesis. Quantitative research leans towards positivists view and as such uses experiments, quasi-experiments, correlations and survey studies. Quantitative research according to Pickard (2013) begins with a theoretical framework established from the literature review, from this framework a hypothesis will emerge and the variables within that hypothesis can be identified (the notion of the hypothesis can also be translated into research aims and objectives).

Creswell (2014) looks at quantitative research as an approach for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that number data can be analysed using statistical procedures. The final written report has a set structure consisting introduction, literature and theory,

methods, results and discussion. Researchers engaged in this type of research rely on assumptions about testing theories and building in protection against bias, controlling for alternative explanations, and being able to generalise and replicate the findings. Qualitative data typically consists of material that is difficult to quantify such as interview transcripts, observations of non-verbal communication, drawings, or film. Qualitative research concerns itself with meaning, social context and personal experience (Denzin & Lincoln, 2005; Snape & Spencer, 2003). Qualitative research also tends towards inside view and uses interpretative paradigm. The essential components of a qualitative research are literature review, the theoretical framework (to act as a cognitive signpost, not to restrict the emerging concepts), fieldwork in a natural setting, using human instrument, purposive sampling, appropriate data collection techniques, emergent design, analysis, iteration of activities, negotiated outcomes, and leading to transference of findings based on contextual applicability (Pickard, 2013).

Qualitative research is concerned with exploring and understanding the meaning individuals or groups ascribe to a social or human problem. It involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particular to general themes, and the researcher making interpretations of the meaning of the data. The final report has a flexible structure and those who engage in this form of inquiry focus on individual meaning and the importance of rendering the complexity of a situation (Creswell, 2014). Qualitative researchers gather data through participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions (Myers, 2013). Yin (2011) observed that the allure of qualitative research is that it enables you to conduct in-depth studies about a broad array of topics, including your favourites, in plain and everyday terms. Moreover, qualitative research offers greater latitude in selecting topics of interest because other research methods are likely to be constrained by:

- the inability to establish the necessary research conditions (as in an experiment);
- the unavailability of sufficient data series or lack of coverage of sufficient variables (as in an economic study);
- the difficulty in drawing an adequate sample of respondents and obtaining a sufficiently high response rate (as in a survey); or

- other limitations such as being devoted to studying the past but not on-going events such history (Yin, 2011).

Tashakkori and Creswell (2007) in defining the third research method - the mixed method assert that it is research approach in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study of inquiry. The mixed method research does not rely on only a single method but rather on many or varied combination of methods. Creswell (2014) described mixed method research as an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a complete understanding of a research problem than either approach alone.

Mixed methods research could also be defined as a research approach or methodology that focuses on research questions that call for real-life contextual understandings, multi-level perspectives, and cultural influences; employing rigorous quantitative research assessing magnitude and frequency of constructs and rigorous qualitative research exploring the meaning and understanding of constructs; utilising multiple methods (such as intervention trials and in-depth interviews); intentionally integrating or combining these methods to draw on the strengths of each; and framing the investigation within philosophical and theoretical positions (Creswell, Klassen, Plano Clark, & Smith, 2011).

Venkatesh, Brown and Bala (2013) observed that mixed methods research, uses quantitative and qualitative research methods, either concurrently (independent of each other) or sequentially (findings from one approach inform the other), to understand a phenomenon of interest. Proponents of mixed methods research appreciate the value of both quantitative and qualitative worldviews to develop a deep understanding of a phenomenon of interest. For example, a researcher may use interviews (a qualitative data collection approach) and surveys (a quantitative data collection approach) to collect data about a new IS implementation. Regardless of the type of research design employed, the key characteristic of mixed methods research is the sequential or concurrent combination of quantitative and

qualitative methods (data collection, analysis, and presentation) within a single research inquiry.

With the rapid advancement of a new and complex array of information technologies, organisations constantly face new challenges related to their understanding of IT capabilities, practices, usage, and impacts. Further, the diffusion of the Internet, the proliferation of numerous non-work related systems and social media, and the availability of myriad IT-enabled devices have now made IT an integral part of individuals' lives. Because of this rapidly changing environment, Information System (IS) researchers, often encounter situations in which existing theories and findings do not sufficiently explain or offer significant insights into a phenomenon of interest. Mixed methods design strategies provide a powerful mechanism for Information System researchers to deal with such situations and subsequently make contributions to theory and practice (Venkatesh et al., 2013).

The mixed method research approach was adopted for this study. The mixed method offers richer insights into the phenomenon being studied and facilitates the capture of information that might be missed when only one research design is used. Mixed method approach can also handle a wider range of research questions because the researcher is not limited to one research design; presents a more robust conclusion; offers enhanced validity through triangulation (cross-validation); adds insight and understanding that might be missed when only a single research design is used; and can increase the capability to generalise the results compared to using only qualitative study designs (Cronholm & Hjalmarsson, 2011; Venkatesh *et al.*, 2013). Mixed methods research approach, however, can be more time consuming and expensive when concurrency is involved. It requires that the researcher(s) learn multiple methods to combine them knowledgeably, and are not without conflict because methodological purists maintain that researchers should work on either a quantitative or a qualitative research design never mixing the two designs in a single study (Cronholm & Hjalmarsson, 2011).

The intent of using mixed methods (quantitative and qualitative research designs) is to maintain the strengths and ameliorate the salient weaknesses in both designs (Caruth, 2013; Creswell, 2012; Gall *et al.*, 2007; Greenwood & Terry, 2012; Salehi & Golafshani, 2010; Truscott *et al.*, 2010; Venkatesh *et al.*, 2013). It is also believed that the combination of

quantitative and qualitative methods presents a more enhanced insight into the research problem(s) and question(s) than using one of the methods independently (Creswell, 2012; Frels & Onwuegbuzie, 2013; Hong & Espelage, 2011).

Several researchers have relied on and successfully used the mixed method research approach in their studies on the adoption, implementation, and the use of Web 2.0 tools by academic libraries. Chen, Chu, and Xu (2012) in the study on “how academic libraries use Social Networking Sites to interact with users” used a mixed method, in which quantitative and qualitative data were incorporated to answer the research questions. The study revealed that among the four types of interactions, knowledge sharing attracts the largest volume of user responses on libraries’ SNSs. Huang, Chu and Chen (2015) study “interactions between English-speaking and Chinese-speaking users and librarians on social networking sites” used a mixed-method approach combining both quantitative and qualitative data to answer the research questions. The study generated quantitative data from the analysis of 1,753 posts sampled from forty library SNSs and qualitative data from interviews with ten librarians. The study found that SNSs were used primarily as channels for disseminating news and announcements about things currently happening in the library. Similarly, Phillips (2015) applied a mixed-method approach to investigate the research questions on a study on “promoting library services to young adults through social media” by carrying out an online survey followed by in-depth interviews. The study investigated the perceptions and attitudes of librarians toward social media as a tool for libraries and explored the way librarians utilise social media to portray professional roles and responsibilities to young patrons. One of the major findings was that librarians are engaging with young adult patrons through a growing number of social media platforms.

4.4 Research Design

The research design is a strategic framework for action that serves as a bridge between research questions and the execution of the research. A research design guides and directs the collection and analysis of data (Creswell & Plano Clark, 2007; Durrheim, 2006). The overall decision of which approach should be used to study a topic, informed by the philosophical assumptions such as procedures of inquiry the researcher brings to the study is what is referred to as the research design (Creswell, 2014). Like building plans, research designs ensure that the study fulfils a particular purpose and that the research can be completed with the available resources (Durrheim, 2006). The research design is a plan for collecting and

analysing evidence that will make it possible for the investigator to answer whatever questions he/she has posed. The design of an investigation touches almost all aspects of the research, from minute detail of data collection to the selection of the techniques of data analysis (Flick, 2009). A research design could also be described as a plan that specifies “the way in which data will be created, collected, constructed, coded, analysed and interpreted” (6 & Bellamy, 2012:20). The research design could therefore, be referred to as a master plan that guides a researcher on choosing a research paradigm, research method, sampling technique and statistical procedure for data analysis and interpretation of the research findings. This is affirmed by Creswell’s (2013) definition of research design as the plans and procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretations.

Neuman (2011) explains research methods as the techniques of research design, measurement, data collection, and data analysis. The research design is, therefore, wider in scope than the research method, as we may have quantitative or qualitative research design, survey research design or experimental research design, cross-sectional research design or longitudinal research design (Neuman, 2011).

An exploratory survey design was employed in this study to enable the researcher to collect and analyse data and draw conclusions. An exploratory survey research design is chosen due to its capacity to generate quantifiable data on a large population group that is representative of a wider population for the purpose of testing theory (Leedy & Ormrod, 2001). An explorative research design is suited for a study with the objective to either explore an area where little is known or to investigate the possibilities of undertaking a particular study (Kumar, 2011).

4.5 Study Site and Population

The population for the study was extracted from the University of Benin (UNIBEN), the University of Port-Harcourt (UNIPOINT) and the University of Calabar (UNICAL) in the South-South region of Nigeria. The South-South region is one of the six geo-political regions in Nigeria. UNIBEN is located in Benin-city, Edo State, while UNIPOINT is located in the city of Port-Harcourt, Rivers State and the UNICAL in Calabar Metropolis, Cross River State. All the universities except the UNICAL are multi-campus universities.

The selection of the South-South region was motivated by a preliminary survey by the researcher whose results showed that although several studies have been conducted on the implementation and use of Web 2.0 tools in Nigeria, UNIBEN, UNIPORT and UNICAL were the only libraries with a library web page linked to Web 2.0 sites. Hence little is known about how the academic libraries in the region are implementing and using Web 2.0 to market their services and the factors influencing the effectiveness of the Web 2.0 tools in this regard. The researcher's familiarity with the values and norms of the South-South region was also a contributing factor for the choice of this study area. The universities were selected from 19 based on the criteria that they were the only institutions with viable library websites linking Web 2.0 sites. The limited time available to complete the research, and financial implications, was also another contributing factor.

The population for the study consisted of professional and paraprofessional librarians from UNIBEN, UNIPORT, and UNICAL as well as third and fourth-year students from the faculty of social sciences, law, and education. Professional librarians are library staff with bachelors, masters and PhD degrees while paraprofessional librarians are library staff holding qualifications below bachelor's degree in library science. The population of study comprised 110,550 librarians and students as presented in Table 4.1 UNIBEN has 206 librarians and 40,000 students while UNIPORT¹ has 141 librarians, 35,000 students, and UNICAL², 203 and 35,000 respectively. The choice of third and fourth-year students was based on the assumption that they would be more familiar with the use of Web 2.0 tools used by the library to market library services, compared to students in their first or second years of study.

Table 4.1: Relative Population of Study

Population	UNIBEN	UNIPORT	UNICAL
Professional librarians	29	22	13
Para-professional librarians	177	119	190
Students	40,000	35,000	35,000
Total	40,206	35,141	35,203

4.6 Sampling Techniques

The study focused on the main libraries because the universities surveyed did not have a uniform number of faculties and faculty libraries. For instance, UNIBEN³ had 13 faculties

and 12 faculty libraries; UNIPOINT had 16 faculties and 12 faculty libraries while UNICAL had 9 faculties and 5 faculty libraries at the time of the study.

The Krejcie and Morgan (1970) table for determining sample size, shows the relationship between the population and the usable sample in a research. They pointed out that as the population increases the sample size increases at a diminishing rate and remains relatively constant at slightly more than 380 cases. The sample size for the total population illustrated in Krejcie and Morgan (1970) table for determining sample size reveal that for populations of >100,000 a sample size of 384⁷ is recommended. Table 4.2, is an illustration of the sample size for each university based on the Krejcie and Morgan (1970) model. Similarly, table 4.3 indicates sample sizes for library staff and students in each institution. The Krejcie and Morgan (1970) formula for determining the sample size is:

$$S P = \frac{N \times S}{TP}$$

Table 4.2: Distribution of Sample Size

SAMPLE	UNIBEN	UNIPOINT	UNICAL
Librarian and students	$\frac{384 \times 40,206}{110,550} = 139.6 = 140$	$\frac{384 \times 35,141}{110,550} = 122.0 = 122$	$\frac{384 \times 35,203}{110,550} = 122.2 = 122$
Total	140	122	122

⁷ Source: Krejcie and Morgan, 1970 (see appendix 6)

Table 4.3: Sample Size for Per Category of Respondents for each University

SAMPLE	UNIBEN	UNIPORT	UNICAL
Librarians	52	31	45
Students	88	91	77
Total	140	122	122

4.7 Data Collection Techniques

A data collection technique is the way which empirical evidence will be harvested from the source. It refers to interviews, questionnaires, focus groups and so on (Pickard, 2013). A triangulation of questionnaire, interview and content analysis was used in this study to collect data. The purpose of multiple sources of data collection in research is to ensure an increase in the reliability. Triangulation is used to gather multiple perspectives on the phenomenon under study. Triangulation is used to compare data, decide if it corroborates and validates research findings (Creswell, 2003; Knafl & Breitmayer, 1989).

The triangulation process of using the questionnaire, interview, and content analysis was used in this study. The purpose of multiple sources of data collection in research is to ensure an increase in the reliability of observation. Triangulation is the use of at least two methods, usually qualitative and quantitative, to address the same research problem. When a single research method is inadequate, triangulation is used to ensure that the most comprehensive approach is taken to solve a research problem (Knafl & Breitmayer, 1989).

The following technique was used to distribute and collect the questionnaires from respondents:

- The questionnaires were packaged according to the three institutions that were used in the study,
- Each of the questionnaires in the packages meant for each institution was numbered for easy coding and analysis,
- Questionnaires were distributed to librarians at the main libraries of each institution and to students in their third and fourth year of study in the lecture rooms,
- Prior to the distribution of questions in the universities, the researcher secured consent from the universities (see appendix 14),
- The questionnaires were filled and returned immediately.

4.8 Data Collection Tools

Research tool or instrument is a device that is designed to collect the data necessary to provide insight or answers to the questions being asked (Bhandarkar & Wilkinson, 2010). Data were collected from respondents using a survey questionnaire (See appendix 2 & 3). A questionnaire is a structured instrument for gathering data from a potentially large number of respondents (Deng, 2010). Survey questionnaire was randomly distributed at the library and lecture halls to solicit quantitative data from three hundred and eighty-four (384) library staff and students in their third and fourth year of study. Pickard (2013) defined random sampling as a procedure of creating a sample where each member of the defined population has an equal chance of being selected for inclusion and the selection of one participant depends on the selection of any other from the population. A random sampling of the respondents was used to remove biases and give all participants an equal opportunity to be selected (Davis-Stober, Budescu, Dana, & Broomell, 2014; Mørkbak & Olsen, 2015).

Survey questionnaire was randomly distributed at the library to solicit quantitative data from 384 library staff and students on the types, the extent of use, policies and attitude and perception towards the use of Web 2.0 for marketing academic library services. Random sampling eliminates bias by giving all individuals an equal chance to be chosen (Davis-Stober *et al.*, 2014; Mørkbak & Olsen, 2015). A semi-structured interview was used to collect qualitative data from two library staff (a sectional head and library ICT staff) in each university (See appendix 5). The purpose of selecting the two staff in each institution was because they were already using Web 2.0 tools in their work. Purposive sampling techniques involve selecting certain units or cases based on a specific purpose (Tashakkori & Teddlie, 2010), to enrich the study. The survey questionnaire was administered to library staff and students at UNIBEN, UNIPORT, and UNICAL with the help of a research assistant where necessary. A face-to-face interview was conducted with pre-selected library staff on how the library advertises the Web 2.0 applications to get followers, the effectiveness of marketing library services using Web 2.0 tools, policy or guidelines regulating the use of these tools etc. Content analysis of documentary sources such as websites and review of the literature were also used to complement the questionnaire and interview. This was to ensure that the outcome of the study was reliable.

There are two questionnaires for staff and students respectively. The questionnaire for librarian has two sections; the first section required the respondents to provide information on

their bio data such as the name of their institution, gender, their age category, level of education, the number of years in present job and position held in the library. Section two consisted questions on; Web 2.0 tools used in the library, the Web 2.0 tools used to market services, effectiveness of Web 2.0 tools, challenges, and Web 2.0 tools which the library planned to implement in the future. The questionnaire for students also consisted of two sections; section one captured bio data and section two solicited data on the use of Web 2.0, perception, effectiveness and best practices. The questionnaires were administered to one hundred and twenty-eight (128) library staff at the surveyed universities and two hundred and fifty-six (256) third and fourth level students respectively. Questionnaires were found appropriate because they are widely used for descriptive or explanatory research (Saunders, Lewis, & Thornhill, 2012). The questionnaire also guarantees the anonymity of respondents, ease of analysis with SPSS as well as interpretation.

The interview schedule was used to complement the questionnaire. A structured interview was used to collect qualitative data from two library staff (a sectional head and library ICT staff) in each university. Saunders *et al.*, (2012) stated that interview is a purposeful conversation between two or more people requiring the interviewer to establish rapport, to ask concise and unambiguous questions to which the interviewee is willing to respond and to listen to attentively, they further identified three categories of interview; structured, semi-structured and in-depth (Saunders *et al.*, 2012). Structured interview enables the researcher to ask predetermined set of questions, using the same wording or order of questions as specified in the interview schedule. An interview schedule is a written list of questions, open-ended or closed, prepared for use by an interviewer in a person-to-person interaction (this may be face to face, by telephone or by other electronic media) (Kumar, 2011; Yin, 2011). One of the major advantages of structured interview according to Kumar (2011) is that it provides uniform information, which assures the comparability of data.

The purpose of selecting two staff in each institution was because they were using Web 2.0 tools in their work. Purposive sampling techniques involve selecting certain units or cases based on a specific purpose (Tashakkori & Teddlie, 2010), to enrich the study. A face-to-face interview was conducted with pre-selected library staff on how the library advertises the Web 2.0 applications to get followers, if tools achieve the purpose of marketing, whether they have policies or guidelines regulating the implementation and use of these tools etc. Content analysis of documentary sources such as websites and the document was also used to

complement the questionnaire and interview. This was to ensure that the outcome of the study is reliable.

4.9 Data Analysis Techniques and Tools

Data analysis is a systematic organisation and synthesis of data that involves the application of one or more statistical techniques. It gives meaning to data collected during research in a way that permits the researcher to answer the research question (Coughlan, Cronin, & Ryan, 2007; Gay, Mills, & Airasian, 2006). Bertram and Christiansen (2010) described analysis as a process that includes three main steps that the researcher needs to undertake. The first step is to analyse or to ask what the data say, the second step is to interpret or to ask what the data mean, and the third step consists of presenting the analysis to readers. The study gathered primary data using questionnaires and interview and secondary data through review of related literature.

Quantitative data is basically analysed using statistical methods, and results can be displayed using tables, charts, histograms, and graphs (Blakie, 2010). Statistical Package for Social Sciences (SPSS) a computer program used to analyse quantitative data was used to sort, code and analyse quantitative data. SPSS was chosen because of its ability in allowing large quantities of data processing by computer with organisation and interpretation of data (Polit & Beck, 2004). SPSS does not only save time but also helps to perform complex data manipulation with straight forward instructions (Larson-Hall, 2010). With the help of SPSS, frequency tables, graphs, and pie charts were created and used for quantitative analysis and subsequent presentation. Qualitative data was analysed using content analysis. Content analysis is a suitable approach for collecting and organising information systematically in a standard format as it allows the analyst to draw conclusions about the characteristics and meaning of the recorded material (Alreck & Settle, 1995).

4.10 Reliability and Validity

Validity is the ability of the researcher to draw meaningful and accurate conclusions from all of the data collected in the study effectively (6 & Bellamy, 2012; Creswell & Plano Clark, 2007). Gray (2013) postulates that if the findings and conclusions of one researcher mirror those of another independent researcher conducting the same research, then the conditions for reliability have been met. Validity could be referred to as a function of how well the scope and aspects of a concept have been outlined in the research instrument (Sekaran & Bougie, 2010). According to Benge, Onwuegbuzie, and Robbins (2012), the evaluation of validity is

the most important step in all research studies. Validating in mixed method research is evaluating the quality criteria or legitimation of findings of the data. The content of the questionnaire was validated by research adviser (supervisor) to ensure content validity. A pre-test of the questionnaire was conducted with respondents similar to the research population of this study.

Reliability is a process of ensuring there is consistency in measuring a research variable by the research instrument employed in the study (6 & Bellamy, 2012). Sekaran and Bougie (2010) affirmed that the extent to which a measure is without bias is denoted by the reliability of a measure and therefore guarantees constant measurement across the different items in the instrument and across time. Thus, the ability of a measure to remain the same over time, despite uncontrollable testing conditions or the state of the respondents themselves, is indicative of its stability and low vulnerability to changes in the situation. The parallel form reliability and test-retest reliability are methods for evaluating the stability of a measure (Sekaran & Bougie, 2010). 6 and Bellamy (2012) further buttressed that a reliable system of measurement or coding is consistent and that reliability is dependent upon methodical attention to detail by the researcher. For reliability, the study went through review by a post-doctoral fellow at the University of Kwa-Zulu Natal (UKZN) and a librarian at the Federal University of Petroleum Resources, Effurun (FUPRE); to ensure documentation of critical incidents (documents and interview notes) and vital information were captured in the data collection tools.

4.10.1 Pilot Study and Tools

A pilot study of the questionnaire was done before administering to respondents, to ensure the validity. It is imperative that questionnaires be pre-tested before being implemented to root out ambiguous and ambivalent questions and to clarify the purpose of the questions. As observed by Kumar (2011) that the purpose of pre-test is not to collect data but to identify problems that the potential respondents might have in either understanding or interpreting a question. Similarly, Welman, Kruger and Mitchell (2005:148) maintain that the purpose of a pilot study is to detect possible flaws in the measurement procedures, to identify unclear or ambiguously formulated items, and to notice non-verbal behaviour which may signify discomfort. Welman and Kruger (1999:146) also argue that piloting is useful if the researcher has compiled the measuring instrument specifically for the purpose of the research project.

The pilot study was carried out on a small scale, targeting a small number of respondents with similar traits to those of the study; library staff and students, of Delta State University. In addition, the study adapted questionnaires⁸ (Grigsby, 2011) from other related studies (Boateng & Quan Liu, 2014; Chu & Du, 2013), to ensure validity and reliability of the instruments. Although, Burns and Grove (2005) and Polit and Beck (2004) make no specific recommendations on determining the sample size of a pilot study, others recommend obtaining approximately 10 participants or 10% of the final study size (Lackey & Wingate, 1998; Nieswiadomy, 2002). A pre-test was carried out on five (5) library staff and ten (10) students (5 students each from the third and fourth year). This was to address any problems such as flaws in the measurement procedures, to identify unclear or ambiguously formulated questions, prior to carrying out the study as well as to check the time required for the completion of the questionnaire.

The pilot study showed that third and fourth-year students were better placed to respond to the use of Web 2.0 in marketing library services compared to students in their first or second year of study. The questionnaire was adjusted to include more Web 2.0 tools that were not mentioned earlier. The pre-testing of the research instrument helped to ensure that the questionnaire did not contain any ambiguous statements. Creswell (2003) affirmed the essence of pre-testing by stating that it is important to test all versions of the questionnaire on typical respondents long before data collection begins. This is done to check whether instructions are clear, questions are straightforward and easy to comprehend.

4.10.2 Ethical Consideration

According to Strydom (2011:114), “ethics” refers to “a set of moral principles which is suggested by an individual or group, is subsequently widely accepted, and which offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students”. The standards and ethics of research of all institutions involved were adhered to. The Ethics Committee of the University of Kwa-Zulu Natal Pietermaritzburg Campus assessed and approved the study (Protocol reference number: HSS/1451/015D)⁹. The researcher adhered to the UKZN ethical clearance protocol. An informed consent, a letter introducing the

⁸ See appendix: 7

⁹ See appendix 15

researcher and stating the purpose of the study was forwarded to UNIBEN, UNIPORT, and UNICAL to secure permission to do the study¹⁰.

Participants were duly informed and briefed on the purpose of the study before the questionnaires were administered and the interview was conducted. The researcher also secured permission from the gatekeepers before commencing the data collection process. The respondents were also informed that participating in the study was voluntary and they were free to withdraw from the study at any stage without sanctions. The respondents were also reassured of their anonymity and that data collected would be treated with confidentiality. Labels and codes were allocated to the respondents.

4.11 Summary

The various approaches and methods used to guide the study were discussed in this chapter. The study employed a post-positivist paradigm and used the mixed method approach. A survey research design was adopted, which according to Wildemuth (1993) is consistent with the post-positivist paradigm and can contribute to the understanding of a general research problem by addressing different specific research problems.

Survey questionnaires, structured interview, and review of related literature such as documents, books, and journals were the three methods that were used for data collection. Three universities namely; UNIBEN, UNIPORT, and UNICAL were used as the study areas. The simple random sampling process was used in the selection of librarians, third and fourth-year level students as respondents. Questionnaires were used to collect quantitative data, while the structured interview was used to collect qualitative data from two purposively selected library staff in each university.

The study population consisted of library staff and students in their third and fourth year of study from the universities. The questionnaires were administered face-to-face by the researcher to the librarians at the library and to the students during lecture time after securing permission from their lecturers. Pre-testing of the instruments was conducted at Delta State University, Abraka; the feedback was used to revise the questions in the data collection tools and interview schedule before embarking on the main survey. Data was coded and

¹⁰ See appendix 7-13

entered into SPSS for graphical presentation. The researcher adhered to UKZN ethical protocol and secured gatekeepers' permission to access both staff and students in the institutions surveyed. The next chapter will analyse data and present the findings of the study.

CHAPTER FIVE

DATA ANALYSIS AND PRESENTATION OF FINDINGS

5.1 Introduction

The previous chapter presented the research methodology used in this study. It gave an in-depth description of the research procedures, including the selection of the target population, the instruments, the data collection procedure, and the methods of data analysis. This chapter focuses on the analysis of data and presentation of findings on the use of Web 2.0 tools for marketing academic library services in selected universities in South-South Nigeria.

The purpose of data analysis and presentation of findings in research is to showcase the empirical findings in an attempt to answer the research questions addressed by the study (Garaba, 2010). A typical approach to analysing data is to respond to each question or hypothesis one by one in the order they were introduced earlier in the study (Creswell, 2012:195). 6 and Bellamy (2012:10) aver that analysis methods “are procedures for manipulating data so that the research questions can be answered, usually by identifying important patterns”. Quantitative data analysis basically involves the use of statistical procedures (6 & Bellamy, 2012; Antonius, 2003), while thematic analysis is usually used qualitative data (Collins *et al.*, 2012). Bhattacharjee (2012:23) also opines that “data is analysed and interpreted for the purpose of drawing conclusions regarding the research questions of interest”. Data analysis may be quantitative (use of statistical techniques such as regression or structural equation modelling) or qualitative (coding or content analysis) (Bhattacharjee, 2012).

The aim of the study was to explore the effectiveness of using Web 2.0 tools to market academic libraries services in selected Nigerian universities in the South-South region. The study sought answers to the following research questions; what are the Web 2.0 tools used by academic libraries in South-South Nigeria? To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services? What policies do academic libraries in South-South Nigeria have to guide the implementation of Web 2.0 tools for effective marketing of their services? What are the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services? This chapter gives an in-depth presentation of data analysis and presentation of findings. Quantitative data were gathered through survey questionnaire while qualitative data were collected through in-

depth interviews. Survey questionnaires were administered to both library staff and students in three universities namely; UNIBEN, UNICAL and UNIPORT. Data generated through questionnaires were then coded and analysed using the Statistical Package for Social Sciences (SPSS version 23).

Findings were reported and presented using descriptive statistics such as percentages/frequency tables, and charts to identify tendencies, compare similarities and contrasts. Age range, gender and library comparisons formed part of the demographic analysis, and cross tabulation. Interviews conducted were prepared by transcribing verbatim from audio-tape into word-processed text. Thereafter, the researcher carried out a thematic content analysis, to sort, manage and organise the data, locate words, identify phrases and segments of data gathered from the library staff and students' responses to open-ended questions. This was done so that the researcher could make sense of the data that had been collected by exploring and interpreting them (Burnard, Gill, Stewart, Treasure, & Chadwick, 2008). According to Moretti, van Vliet, Bensing, Deledda, Mazzi, Rimondini, Zimmermann and Fletcher (2011), the advantage of qualitative research is the richness of the collected data and such data need to be interpreted and coded in a valid and reliable way. These coded statements were then used to identify themes that emerged from the data. Data was collected daily on week-days over a period of four weeks (4-29 January 2016). The interviews took place within the same period and each interview session lasted from 30–35 minutes. The interviewees were given prior notification in the form of consent letter before the interviews commenced.

This chapter presents response rate; demographics of librarians (gender, age range, level of education, librarians duration of working on the current job, and position held in the library), Web 2.0 tools used by libraries; Web 2.0 tools no longer used by academic libraries; Web 2.0 tools which the library plans to implement; Web 2.0 tools used for marketing academic library services; the purpose of using Web 2.0 tools in the library; the frequency of using Web 2.0 tools; ways of optimising Web 2.0 tools to market library services; interview responses the Web 2.0 tools used in the library, Web 2.0 tools used to market library services, reasons for the library using particular Web 2.0 tools, the marketing of Web 2.0 tools by the library to get followers, the extent Web 2.0 tools achieve the purpose of marketing, policy or guideline regulating the use of these tools, management of the Web 2.0 tools, level of awareness among librarians about Web 2.0 tools, expertise/experience the librarians have of

Web 2.0 tools, effectiveness of marketing library services, and the best ways to apply Web 2.0 tools for marketing.

The chapter also presents demographics of students: (gender, age range, level of study of student); Web 2.0 tools students would most likely use to access library services, reasons students would not use Web 2.0 tools to access the library, motivation of students to join a Web 2.0 application for the library, the services provided by the library through the use of Web 2.0 tools, information students would like to see on their library Web 2.0 applications, Web 2.0 tools the library plans to implement, other methods the library could use to market its services the importance of Web 2.0 tools for marketing and promoting library services, the best ways to implement Web 2.0 tools in the library, and summary of findings.

5.2 Response Rate

Johnson and Wislar (2012:1805) defined response rate ~~as~~ "the proportion of individuals selected into a sample who are eligible and ultimately participate in the survey". Response rates have historically been the method of choice for documenting and evaluating survey quality. Among the attractive features of response rates are their intuitive appeal and that they can be easily calculated for any survey (Johnson & Wislar, 2012). In survey research, response rate refers to the number of people who answered the survey divided by the number of people in the sample. It can also refer to completion or return rate and is usually expressed in the form of a percentage. Maxfield and Babbie (2015) opine that a response rate of at least 50% is adequate for analysis and reporting, a response rate of at least 60% is good while a response rate of 70 percent is very good. However, these are rough guides with no statistical basis and a demonstrated lack of response bias is far more important than a high response rate. Polit and Beck (2004:366) observed that ~~a~~ "response rate greater than 65% is probably sufficient for most purposes, but lower response rates are common" while Fincham (2008:43) asserts for a ~~survey~~ research intended to represent the whole population, a response rate of 80% is expected and acceptable".

Three hundred and eighty-four (384) questionnaires were distributed across the three institutions that served as the study area. Out of the number of questionnaires administered to both librarians and students, three hundred and sixty-four (364) were completed and returned. Table 5.1 presents the response rates of librarians.

Table 5.1: Response rate (N=364)

Sample	Frequency	% Response Rate
Librarians (n=128)	108	84.4
Students (n=256)	256	100
Total (N=364)	364	94.8
Interviews	5	83.3

The interview sample size for the qualitative study was six (6), from which five (5) interviews were administered giving a response rate of 83.3%. The response rates of 94.8% (questionnaire) and 83.3% (interview) respectively were considered representative of the entire population of interest (Maxfield & Babbie, 2015).

5.3 Quantitative Data Analysis

To answer four of the research questions, a variety of statistical analyses were conducted using descriptive statistics to analyse the quantitative data. Quantitative data were first prepared using SPSS version 23, for the screening and cleaning process (Pallant, 2007:8) to ensure accurate analysis. The survey data were analysed through the descriptive statistical process to check for missing data. Originally, three hundred and eighty-four (384) questionnaires were distributed to both librarians and students comprising one hundred and twenty-eight (128) and two hundred and fifty-six (256) respectively. The librarians completed one hundred and eight (108) questionnaires and the completed questionnaires collected from student respondents were two hundred and fifty-six (256). The sections that follow present data analysis derived from the quantitative and qualitative data.

5.3.1. Demographics of Librarians

The demographics of librarians in the study include the institution, gender, age, level of education, duration of working in their current job and current position held in the library. Figure 5.1 depicts the results on the affiliation of the respondents in the study. A majority of respondents 42 (39.0%) were from UNIBEN; this was followed by 40 (37.0%) respondents from UNICAL and 26 (24.0%) from UNIPORT. The results showed that UNIBEN had more respondents than UNICAL and UNIPORT as presented in figure 5.1.

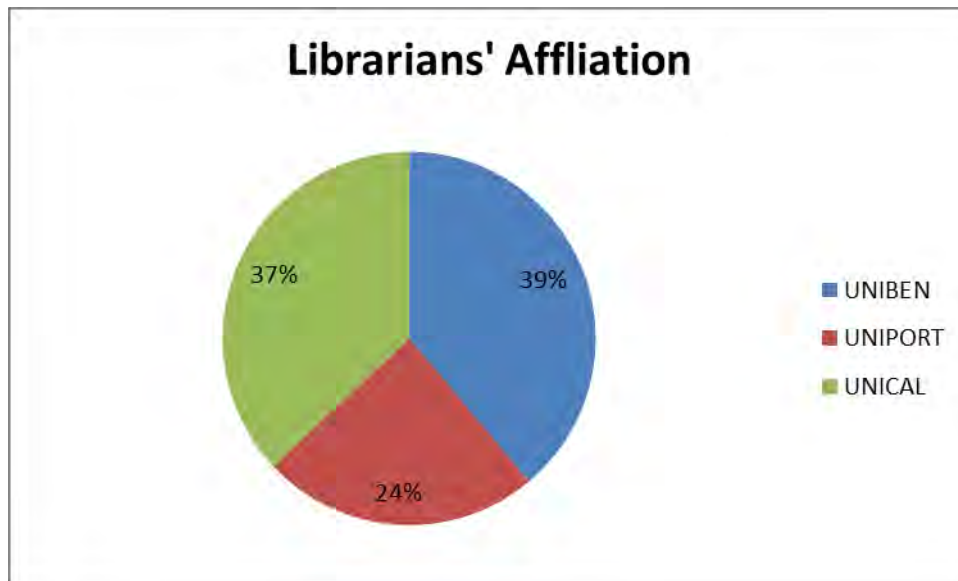


Figure 5.1: Librarians' affiliation (Source: empirical data)

5.3.2 Gender of Librarians

The results on the gender of library staff are presented in figure 5.2. Analysis of the results shows that, out of the 108 respondents surveyed, 60 (56.0%) were female while remaining 48 (44.0%) were male. This suggests that there were more female than males in the various universities confirming the commonly held view that librarianship is a feminine profession.

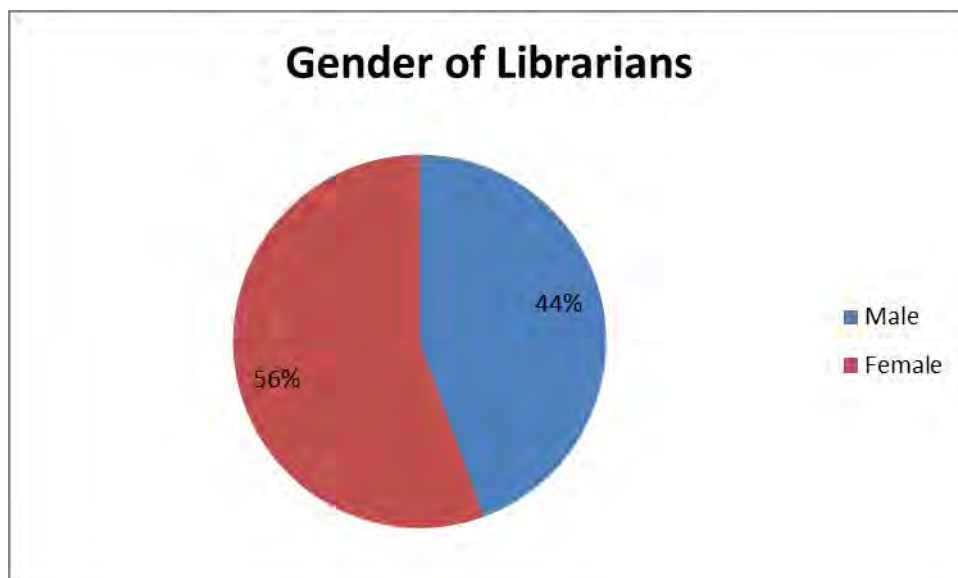


Figure 5.2: Gender of Librarians (Source: Empirical data)

5.3.3 Age Range of Librarians

Descriptive statistics representing the variable of the age of the surveyed respondents show that out of the 108 surveyed librarians, a majority 24 (22%), were between the ages of 41 –45 with the second highest category of respondents of 23 (21%) falling in the age range of 31 – 35 years. The third highest category of respondents was 20 (19%) within the age range of 36-40 years. The remaining four categories (20-25, 26-30, 46-50 and 50 and above) represents 38% of the respondents surveyed. Figure 5.3 depicts the age range of the librarians surveyed.

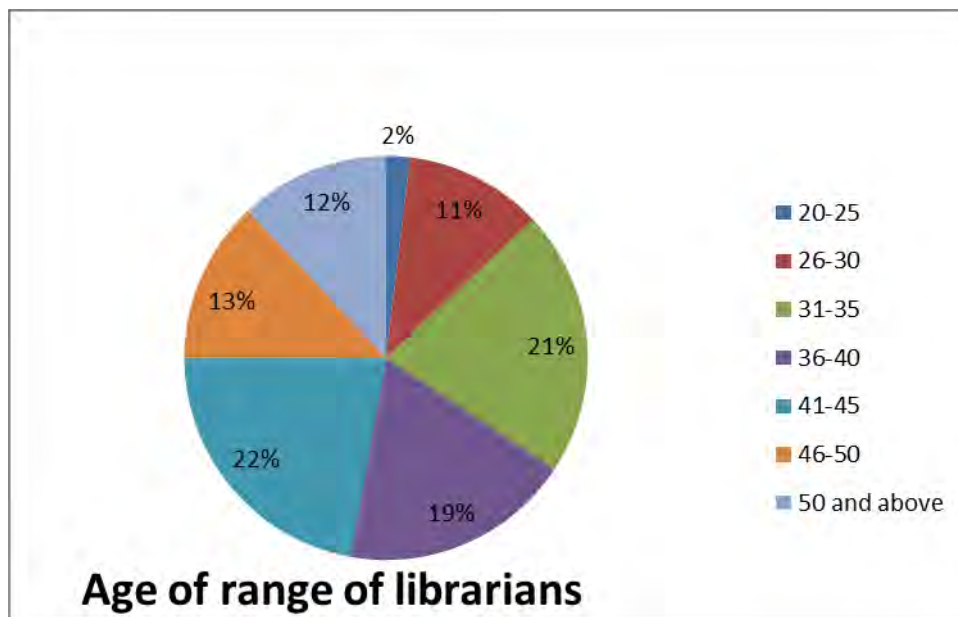


Figure 5.3: Age Range of Librarians (Source: Empirical data)

5.3.4 Level of Education of Librarians

Figure 5.4 shows that most librarians 53 (49%) were holders of master’s degrees, while 29 (27%) were bachelor’s degree holders. In addition, 19 (18%) of the library staff were holders of a doctoral degree and another 7 (6%) were holders of diploma certificates. The results suggest that master’s degree holders were in the majority.

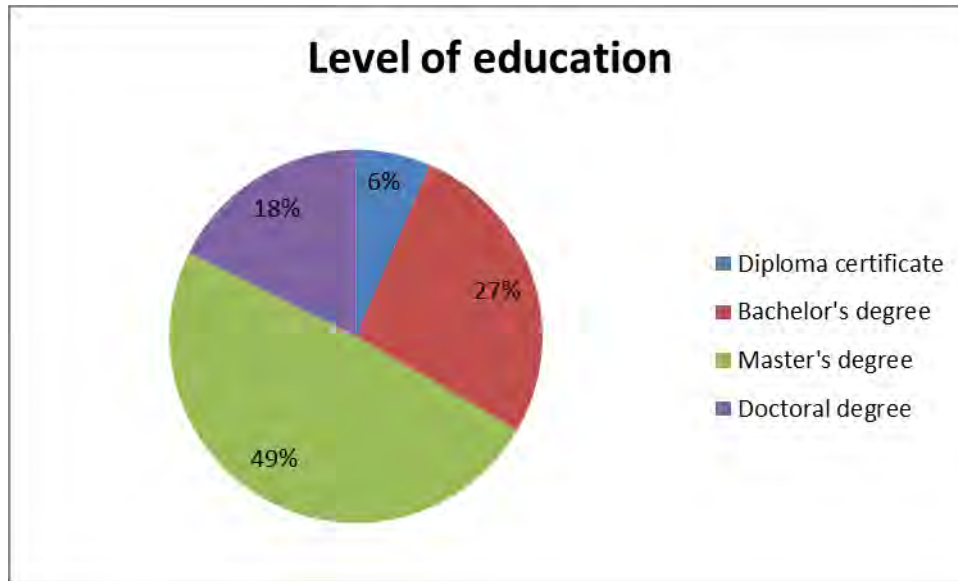


Figure 5.4: Level of Education of Librarians (Source: Empirical data)

5.3.5 Duration of Working in the Current Job

Respondents were asked to indicate, –How long they have been working in their job”. The results presented in figure 5.5 show that 34 (32%) of the respondents indicated they have been in their job for 1-5 years and 6-10 years respectively. The second highest category was 14 (13%) respondents that have been in their job for 11-15 years. Respondents in the categories 16-20 years and 21-25 years were 8 (7%) respectively, while 5 (5%) each indicated they belonged to categories 26-30 years and 31 and above respectively.

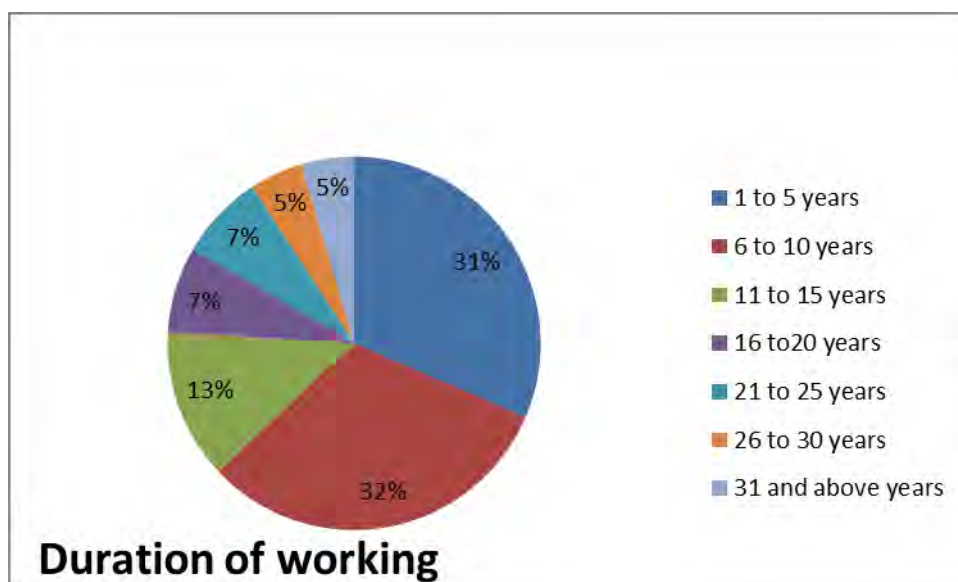


Figure 5.5: Librarians’ Duration of Working in Current Job (Source: Empirical data)

5.3.6 Position Held in the Library

The study sought to know the position librarians occupied in their respective libraries. The results are depicted in figure 5.6. The results show that the highest responses of 37 (34%) and 23 (21%) occupied the position of librarian II and librarian I respectively. Assistant librarian and library/IT officers were each 14 (13%) respectively. Senior librarians were 10 (9%) of the respondents, and 4 (4%) respondents occupied the positions of principal librarian while those who occupied the positions, deputy librarian and librarian categories were 3 (3%) each.

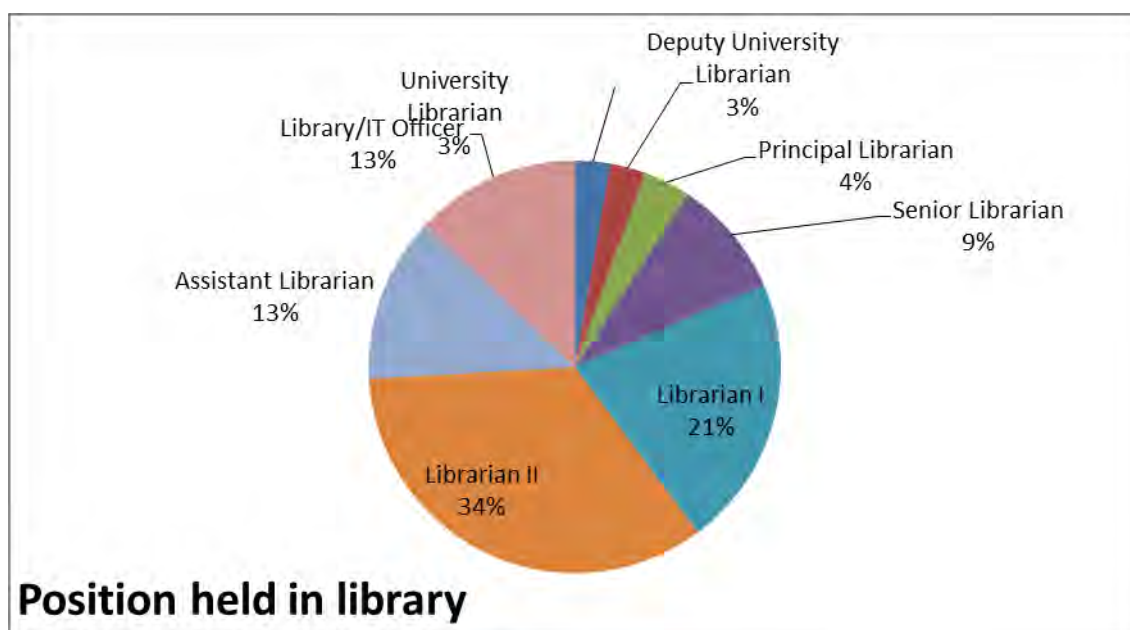


Figure 5.6: Position Held in Library (Source: Empirical data)

5.4 Web 2.0 Tools Used by Libraries

The first research question of the study sought to determine the Web 2.0 tools used by academic libraries in South-South Nigeria to market their services. The results presented in table 5.2 show Facebook 104 (96.3%), Twitter 76 (70.4%), Instant Message 56 (51.9%), and Internet Forum 51 (47.2%) respectively. The result reveals that the degree of use by each of the three universities studied varies. For instance, 41 (97.6%) of the respondents from UNIBEN reported that they used Facebook, 26 (100%) in UNIPORT and 37 (92.5%) in UNICAL. Similarly, the use of Twitter UNIBEN was 37 (88.1%) while UNIPORT was 19 (73.1%) compared with 20 (50%) response from UNICAL. Instant message also received the highest response in UNIBEN 26 (61.9%), UNIPORT 12 (46.2%), and UNICAL 18 (45%)

respectively. The respondents from UNIBEN 23 (54.8%) for Internet Forum were also higher than that of UNIPORT and UNICAL at 11 (42.3%) and 17 (42.5%) respectively. In terms of YouTube, 42 (38.9%) of the respondents indicated that they used it, followed by Academia edu. 36 (33.3%), LinkedIn 33 (30.6%), Blogs 29 (26.9%) while Pictures, RSS Feeds, Wordpress, Wikis and Message Board ranked the lowest 21 (19.4%), 14 (13.0%), 13 (12.0%) and 9 (8.3%) respectively. Analysis of results of individual universities shows that UNIBEN had the highest response rate for YouTube 22 (52.4%), LinkedIn 20 (47.6%), Academia edu. 19 (52.8%), Pictures 14 (33.3%), 9 (21.4%) for RSS feeds, and Word press respectively. UNIPORT ranked next with YouTube 13 (50%), LinkedIn 9 (34.0%), Blogs 11 (42.3%) and Pictures at 6 (23.1%) respectively. However, the percentage for Academia edu 11 (27.5%) was higher at UNICAL than at UNIPORT 6 (23.1%). The variances in the use of Web 2.0 tools in the surveyed universities could be attributed to Behavioural Intention having a significant link between Effort Expectancy (EE) and Performance Expectancy. In a related study, the UTAUT constructs confirmed the positive and significant influence of EE over PE (Zhou *et al.*, 2010). Chong (2013) and Venkatesh *et al.* (2012) found that EE is one of the significant determinants of BI.

Table 5.2: Web 2.0 Tools Used by Libraries (N=108) (Source: Empirical data)

Web 2.0 tools	Library						TOTAL (N=108)	
	UNIBEN (n=42)		UNIPORT (n=26)		UNICAL (n=40)			
Facebook	41	97.6%	26	100%	37	92.5%	104	96.3%
Twitter	37	88.1%	19	73.1%	20	50%	76	70.4%
Instant Message	26	61.9%	12	46.2%	18	45%	56	51.9%
Internet Forum	23	54.8%	11	42.3%	17	42.5%	51	47.2%
YouTube	22	52.4%	13	50%	7	17.5%	42	38.9%
LinkedIn	20	47.6%	9	34.6%	4	10.0%	33	30.6%

Academia edu.	19	52.8%	6	23.1%	11	27.5%	36	33.3%
Blogs	15	35.7%	11	42.3%	2	5.0%	29	26.9%
Pictures	14	33.3%	6	23.1%	1	2.5%	21	19.4%
RSS feeds	9	21.4%	1	3.8%	4	10.0%	14	13.0%
Wordpress	9	21.4%	1	3.8%	3	7.5%	13	12.0%
Wikis	6	14.3%	4	15.4%	3	7.5%	13	12.0%
Message Board	4	9.5%	3	11.5%	2	5.0%	9	8.3%

5.5 Web 2.0 Tools no Longer Used by the Library

Respondents were further asked to state the Web 2.0 tools no longer used by their institutional library. This was also to address research question one. Only 11 respondents from the three universities answered this question. Majority of the respondents 6 (54.5%) indicated Blogs, followed by 3 (27.3%) for Academia.edu. The least responses were in YouTube and Instant Message at 1 (9.1%) each while iTunes was 2 (18.2%). The results are summarised in table 5.3, was also to answer research question one.

Table 5.3: Web 2.0 Tools no Longer Used by the Library (N=11) (Source: Empirical data)

Institution	Web 2.0 Tools no Longer Used					Total
	Blog	iTunes	Academia.edu	YouTube	Instant Messaging	
UNIBEN Count	4	2	2	0	1	7
% within library	57.1%	28.6%	28.6%	0.0%	14.3%	100%

(n=7)						
UNIPOINT Count	1	0	1	0	0	2
% within library (n=2)	5.3%	26.4%	68.5%	0.0%	0.0%	100%
UNICAL Count	1	0	0	1	0	2
% within library (n=2)	50.0%	0.0%	0.0%	50.0%	0.0%	100%
Total Count	6	2	3	1	1	11
% within library (N=11)	54.5%	18.2%	27.3%	9.1%	9.1%	100%

Question 8, of the survey questionnaire, was an open-ended question which sought to find out why certain Web 2.0 tools were no longer used by the institutional library. Only 7 respondents answered this question with each stating; inadequate skilled manpower, Internet connection problems, lack of dedicated staff, lack of interest in learning Web 2.0 tools, shortage of staff, technical problem and out-dated tools as some of the reasons Web 2.0 tools were no longer used by the library. For the UTAUT model, facilitating conditions have significant effects on the use of Web 2.0 tools. In addition, effort expectancy strongly affects performance expectancy.

5.6 Web 2.0 Tools which the Library Plans to Implement in the Future

Data obtained from respondents on the Web 2.0 tools which the library plans to implement in the future are presented in table 5.4. A total of 16 (14.8%) respondents mentioned Internet Forum, YouTube 11 (10.2%) while 10 (9.3%) stated RSS feeds, Instant Message, LinkedIn and Blogs respectively. Some 9 (8.3%) indicated Message Board, Twitter 8 (7.4%) and

iTunes 7 (6.5%), while a few 6 (5.6%) indicated Wiki, Myspace and Wordpress, respectively. The least response from the respondents 5 (4.6%) mentioned Podcast and Picture. Most of the respondents (17.6%) in this category noted –None” of the Web 2.0 tools will be implemented in their library in the future.

**Table 5.4: Web 2.0 Tools which the Library Plans to implement in the Future (N=108)
(Source: Empirical data)**

Web 2.0 tools	Library						TOTAL (N=108)	
	UNIBEN (n=42)		UNIPORT (n=26)		UNICAL (n=40)			
Internet Forum	7	16.7%	6	23.1%	3	7.5%	16	14.8%
RSS Feeds	7	16.7%	2	7.7%	1	2.5%	10	9.3%
Instant Message	6	14.3%	4	15.4%	0	0%	10	9.3%
LinkedIn	6	14.3%	1	3.8%	3	7.5%	10	9.3%
YouTube	5	11.9%	3	11.5%	3	7.5%	11	10.2%
Message board	5	11.9%	4	15.4%	0	0%	9	8.3%
Wikis	4	9.5%	2	7.7%	0	0%	6	5.6%
MySpace	4	9.5%	2	7.7%	0	0%	6	5.6%
iTunes	4	9.5%	1	3.8%	2	5%	7	6.5%
Blogs	3	7.1%	4	15.4%	3	7.5%	10	9.3%
Wordpress	3	7.1%	3	11.5%	0	0%	6	5.6%
Podcast	3	7.1%	2	7.7%	0	0%	5	4.6%
Pictures	2	4.8%	1	3.8%	2	5%	5	4.6%
Twitter	2	4.8%	4	15.4%	2	5%	8	7.4%
None	5	11.9%	1	3.8%	13	32.5%	19	17.6%

5.7 Web 2.0 Tools Used for Marketing Academic Library Services

This section presents results to address research question two, which sought to find out the extent to which academic libraries in South-South Nigeria embraced and applied Web 2.0 tools to market library services. The respondents were given an opportunity to indicate as many responses as were applicable to their library. Table 5.5 presents the results for each university. Results show that 101 (93.5%) of the respondents used Facebook to market their library services, 52 (48.1%) used Twitter, Instant Message 41 (37.9%), Pictures 20 (18.5%), Blogs 22 (20.4%) and YouTube 25 (23.4%) respectively. The use of Internet Forum was 27 (25.0%), Academia edu. 24 (22.2%), LinkedIn 17 (15.7%), Message Board 8 (7.4%) and Wiki 4 (3.7%) respectively. The results generally suggest that Web 2.0 tools were used more at UNIBEN than at any of the two other universities.

Table 5.5: Web 2.0 Tools Used for Marketing Academic Library Services (N=108)
(Source: Empirical data)

Web 2.0 tools	Library						TOTAL (N=108)	
	UNIBEN (n=42)		UNIPOINT (n=26)		UNICAL (n=40)			
Facebook	42	100%	22	84.6%	37	92.5%	101	93.5%
Twitter	36	85.7%	11	42.3%	5	12.5%	52	48.1%
Instant Messages	18	42.8%	7	26.9%	16	40%	41	37.9%
Pictures	14	33.3%	6	23.0%	0	0%	20	18.5%
Blogs	11	26.1%	9	34.6%	2	5%	22	20.4%
YouTube	10	23.8%	11	42.3%	4	10%	25	23.1%
Internet Forum	10	23.8%	9	34.6%	8	20%	27	25%
Academia edu.	9	21.4%	5	19.2%	10	25%	24	22.2%
LinkedIn	7	16.6%	7	26.9%	3	7.5%	17	15.7%
Message board	3	7.1%	4	15.4%	1	2.5%	8	7.4%
Wikis	3	7.1%	1	3.8%	0	0%	4	3.7%

5.8 The Purposes of Using Web 2.0 Tools by the Library

To address research question two, table 5.6 presents the results for the purpose for which Web 2.0 tools were used in the universities surveyed. A total of 99 (91.7%) of the respondents indicated the library uses Web 2.0 tools to “promote library services”, 68 (63.0%) agreed they used these tools to “reach a new audience of potential users”. This is closely followed by 67 (62.0%) who stated the library uses Web 2.0 tools to “push library news and press release” and “provide quick updates to users”. About half of the respondents 59 (54.6%) affirmed “reference services online” were one of the purposes the library used Web 2.0 tools. Results obtained also showed that 50 (46.3%) indicated Web 2.0 tools was used to “modernise the library image and e-reputation” as well as “spread library news and service alerts”, 34 (31.5%) for training while 32 (29.6%) indicated, “Collaborating with colleagues in other libraries”. A few 26 (24.1%) indicated that the library used Web 2.0 tools for “image and video sharing” and the least number of respondents 17 (15.7%) indicated “Blogging”, “social tagging and bookmarking” as part of the services rendered by the library using Web 2.0 tools.

Table 5.6: The Purpose of Using Web 2.0 Tools by the Library (N=108) (Source: Empirical data)

Purpose	Library						TOTAL (*N=108)	
	UNIBEN (n=42)		UNIPOINT (n=26)		UNICAL (n=40)			
Promote library product and services	41	97.6%	23	88.5%	35	87.5%	99	91.7%
Modernize the library image and e-reputation	25	59.5%	16	61.5%	9	22.5%	50	46.3%
Reach a new audience of potential users	32	76.2%	14	53.8%	22	55%	68	63.0%
Push library news and press release	35	83.3%	13	50%	19	47.5%	67	62.0%
Provide quick update	33	78.6%	15	57.7%	19	47.5%	67	62.0%

to users								
Build discussion groups and collaborative work	15	35.7%	9	34.6%	6	15%	30	27.8%
Spread library news and service alerts	31	73.8%	9	34.6%	10	25%	50	46.3%
Reference services online	28	66.7%	15	57.7%	16	40%	59	54.6%
Blogging	10	23.8%	6	23.1%	1	3.8%	17	15.7%
Image and video sharing	14	33.3%	6	23.1%	6	15%	26	24.1%
Collaborating with colleagues in other libraries	15	35.7%	13	50%	4	10%	32	29.6%
Training resources	15	35.7%	13	50%	6	15%	34	31.5%
Social tagging and bookmarking	9	21.4%	5	19.2%	3	7.5%	17	15.7%
None	2	4.8%	0	0%	0	0%	2	1.9%

5.9 Frequency of Using Web 2.0 Tools

Respondents were asked to indicate the frequency of using some of the popular Web 2.0 tools in their library using a Likert scale. This was to seek answers to research question three; the attitudes and perceptions of librarians towards the use of Web 2.0 tools. The results are presented using cross tabulation of libraries and Web 2.0 tools. In figure 5.7, majority of the respondents 74 (77.9%); UNIPORT 22 (88.0%), UNIBEN 31 (79.4%) and UNICAL 21 (67.7%) indicated they used Facebook “frequently” while 15 (15.8%); 7 (22.6%) of the respondents in UNICAL, 6 (15.4%) in UNIBEN and 2 (8.0%) in UNIPORT) responded they “occasionally used” Facebook and the least responses 9.7% “rarely used” Web 2.0 tools. In

table 5.7, the result of the chi-square statistics shows there is no significant difference ($X^2 = 10.651$, $N = 95$, $df = 8$, $p = 0.222$) in the use of Facebook among the three universities.

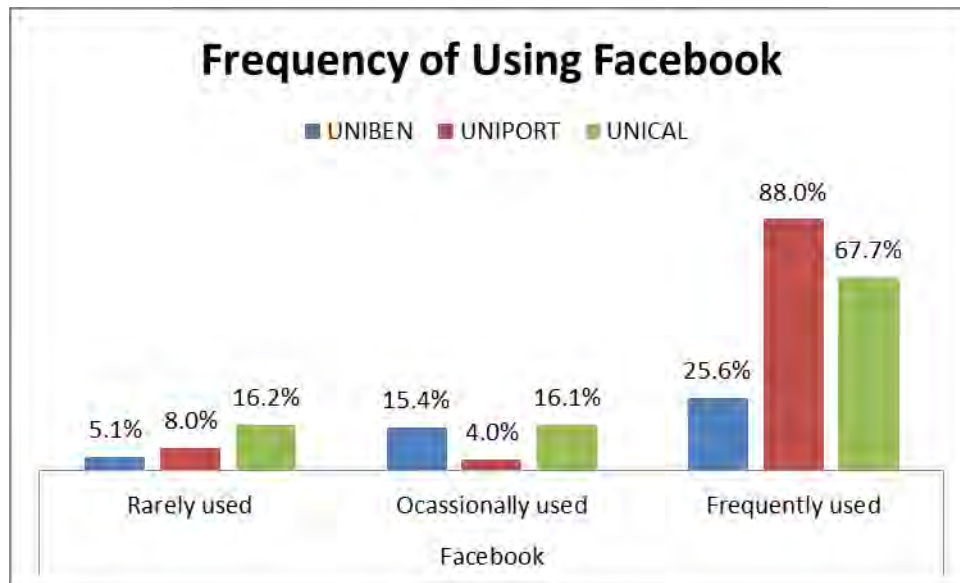


Figure 5.7: Cross-tabulation on Frequency of Using Facebook (N=95)

Table 5.7: Chi-Square Test on Frequency of Using Facebook

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.651 ^a	8	.222
Likelihood Ratio	12.284	8	.139
Linear-by-Linear Association	1.985	1	.159
N of Valid Cases	95		

a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is .79.

With respect to the frequency of using Flickr, a few 4 (8.9%); UNIBEN 2 (79.4%), UNIPOINT 0% and UNICAL 2 (10.0%) indicated “frequently used”, majority of the respondents 40 (88.9%); UNICAL 17 (85.0%), UNIPOINT 8 (100%) and UNIBEN 15 (5.1%) indicated “rarely used” and only 1 (2.2%); UNICAL 1 (5.0%, UNIBEN and UNIPOINT 0% respectively, answered “occasionally used” as presented in figure 5.8. The result of the chi-square statistics as indicated in table 5.8, shows there is no significant difference in the use of Flickr ($X^2 = 2.293$, $N = 45$, $df = 4$, $p = 0.682$) among the three surveyed universities.

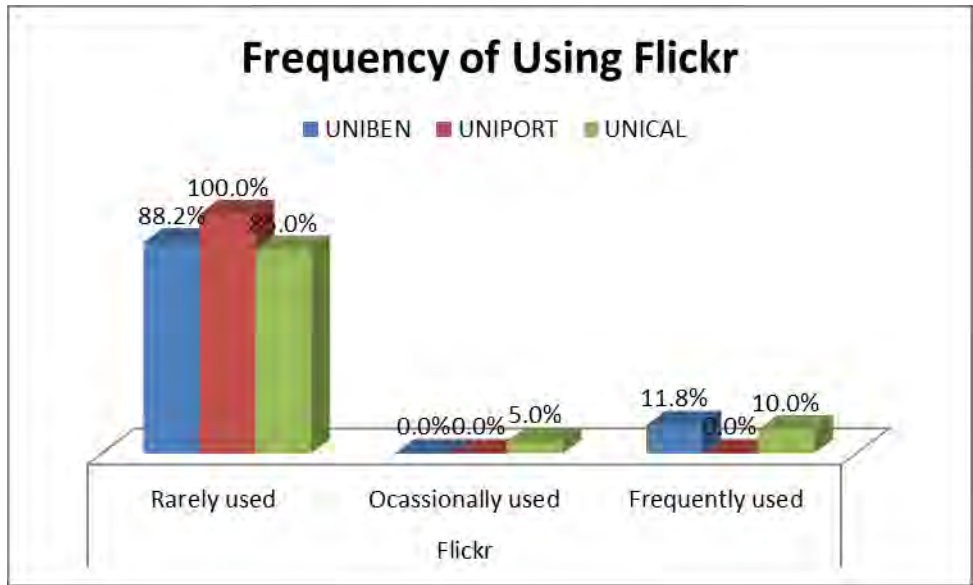


Figure 5.8: Cross-tabulation on Frequency of Using Flickr (N=45) (Source: Empirical data)

Table 5.8: Chi-Square Test on Frequency of Using Flickr

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.293 ^a	4	.682
Likelihood Ratio	3.356	4	.500
Linear-by-Linear Association	.000	1	.985
N of Valid Cases	45		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .18.

Similarly, the results reveal the frequency of using YouTube, 32 (41.1%) with most of the respondents indicating “occasionally used”, a lower percentage of 26 (33.3%) indicating “frequently used” while the respondents that indicated “rarely used” were 20 (25.6%). Figure 5.9 indicates 21 (61.8%) in UNIBEN rarely used YouTube, 4 (26.4%) and 19 (76.0%) in UNIPOINT and UNICAL respectively rarely used YouTube. However, 12 (29.4%), 14 (68.5%) and 3 (12.0%) respectively (UNIBEN, UNIPOINT and UNICAL) frequently used YouTube. The result of the chi-square statistics shows there is a significant difference ($X^2 = 21.592$, $N = 78$, $df = 8$, $p = 0.006$) in the use of YouTube among the three universities and it is presented in table 5.9.

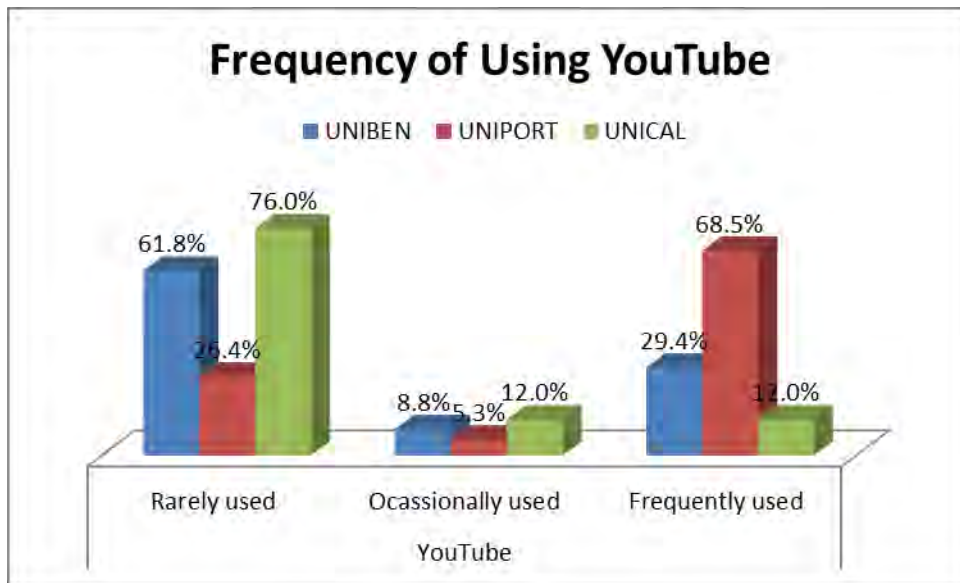


Figure 5.9: Cross-tabulation on Frequency of Using YouTube (N=78) (Source: Empirical data)

Table 5.9: Chi-Square Test on Frequency of Using YouTube

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.592 ^a	8	.006
Likelihood Ratio	21.622	8	.006
Linear-by-Linear Association	2.435	1	.119
N of Valid Cases	78		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is 1.71.

Data analysis on the frequency of using Instant Message as presented in figure 5.10 reveal that 22 (22.2%); UNIBEN 22.9%, UNIPOINT 35.0% and UNICAL 26.9% of the respondents –occasionally” used Instant message, 30 (37.1%); UNIBEN 12 (34.2%), UNIPOINT 9 (45.0%) and UNICAL 9 (34.6%) –frequently used” it and only 29 (35.8%); UNIBEN 15 (42.9%), UNICAL 10 (38.5%) and 4 (20.0%) indicated they –rarely used” it. However, there was no statistically significant effect of librarians on the frequency of using Instant Messaging, ($X^2 = 8.388$, $N = 81$, $df = 8$, $p = 0.397$) as indicated in table 5.10.

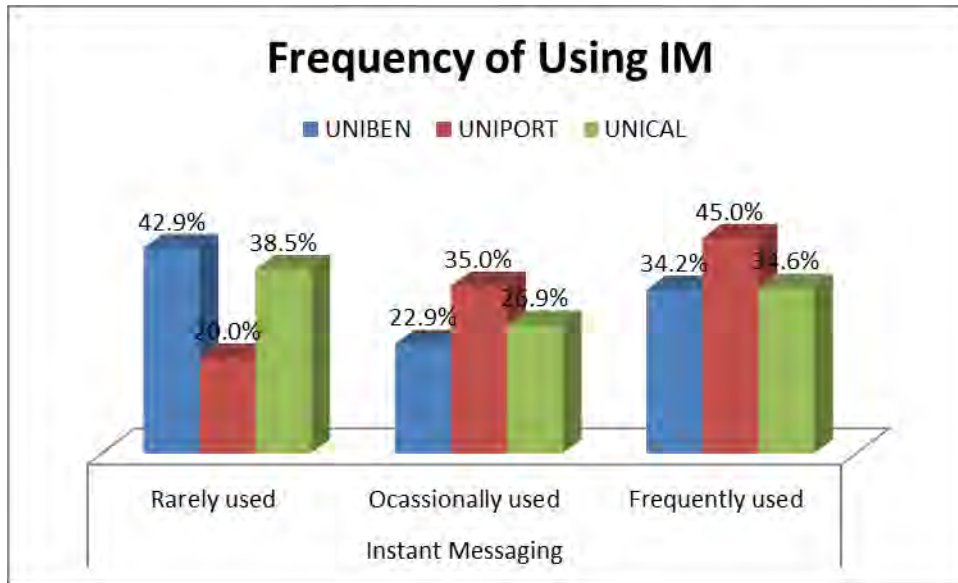


Figure 5.10: Cross-tabulation on Frequency of Using Instant Messaging (N=81) (Source: Empirical data)

Table 5.10: Chi-Square Test on Frequency of Using Instant Messaging

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.388 ^a	8	.397
Likelihood Ratio	8.337	8	.401
Linear-by-Linear Association	.730	1	.393
N of Valid Cases	81		

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is 2.72.

The frequency of using Blog show that 18 (26.5%) of the respondents “frequently” used and some of the respondents 10 (14.7%) indicated, “occasionally used”; while 40 (58.8%) of the respondents indicated, “rarely used”. The result for the individual university is presented in figure 5.11. In table 5.11, the Chi-Square results ($X^2 = 14.426$, $N = 68$, $df = 8$, $p = 0.071$) indicates there is no significant difference in the frequency of using Blog by librarians in the universities studied.

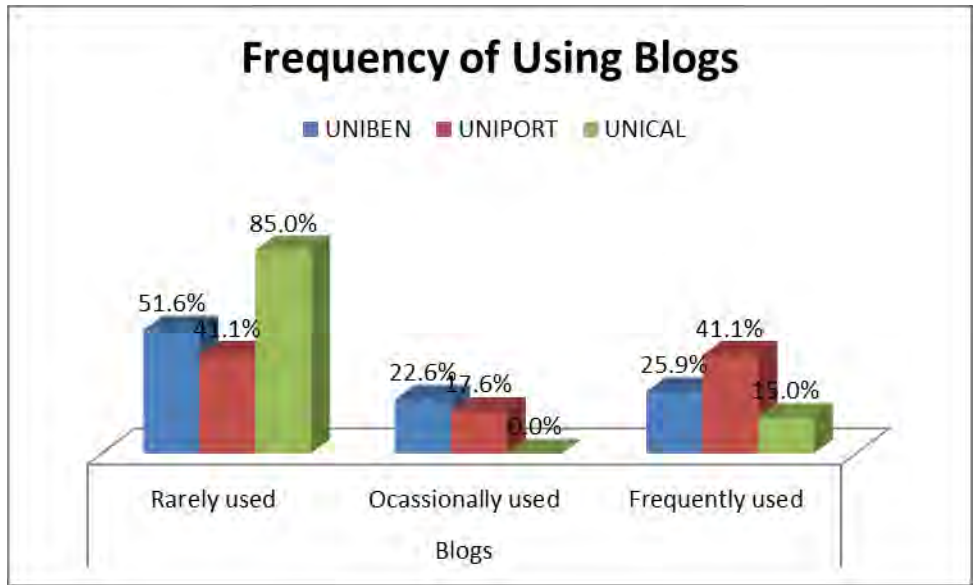


Figure 5.11: Cross-tabulation on Frequency of Using Blog (N=68) (Source: Empirical data)

Table 5.11: Chi-Square Test on Frequency of Using Blogs

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.426 ^a	8	.071
Likelihood Ratio	17.980	8	.021
Linear-by-Linear Association	2.424	1	.119
N of Valid Cases	68		

a. 10 cells (66.7%) have expected count less than 5. The minimum expected count is 1.25.

Results of analysis with respect to the frequency of using Wiki shows that majority of the respondents 38 (73.1%) responded “rarely used”, followed by 7 (13.5%) of the respondents and very few 7 (13.5%) of the respondents stated they “frequently used” Wiki. The results on the frequency of using Wiki by the individual university are presented in figure 5.12. Statistically, the Chi-Square results as presented in table 5.12 shows that there is a significant difference in the frequency of using Wiki in the three universities surveyed ($X^2 = 13.033$, $N = 52$, $df = 8$, $p = 0.111$).

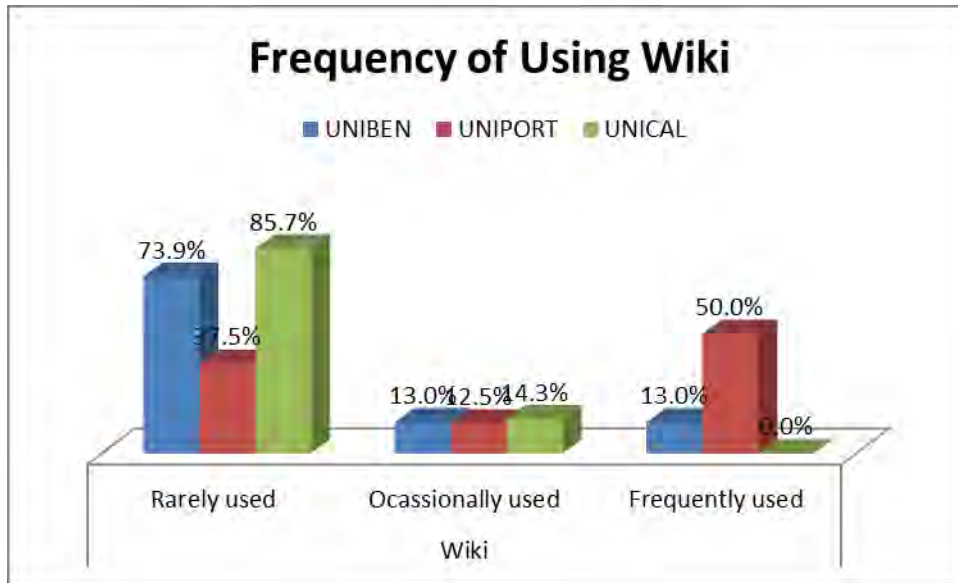


Figure 5.12: Cross-tabulation on Frequency of Using Wiki (N=52) (Source: Empirical data)

Table 5.12: Chi-Square Test on Frequency of Using Blogs

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.033 ^a	8	.111
Likelihood Ratio	12.935	8	.114
Linear-by-Linear Association	1.084	1	.298
N of Valid Cases	52		

a. 13 cells (86.7%) have expected count less than 5. The minimum expected count is .31.

The highest response was recorded in the “rarely used” category at 16 (84.2%), 3 (75.0%), 15 (83.4%) for UNIBEN, UNIPOINT and UNICAL respectively. Responses on “occasionally used” were UNIBEN 1 (5.3%), UNIPOINT 1 (25.0%), and UNICAL 2 (11.1%). In addition, responses for “frequently used” showed UNIBEN 2 (10.6%), UNICAL 1 (5.6%) while UNIPOINT had no response in this category. The overall response for all the university survey were “rarely used” 34 (82.9%), the next category was 4 (9.8%) that “occasionally used” RSS. “Frequently used” had the least response at 3 (7.3%). The results are depicted in figure 5.13 and the Chi-Square result ($X^2 = 3.442$, $N = 41$, $df = 8$, $p = 0.904$) in table 5.13 shows that there is no significant difference between the three universities surveyed on the frequency of using RSS feeds.

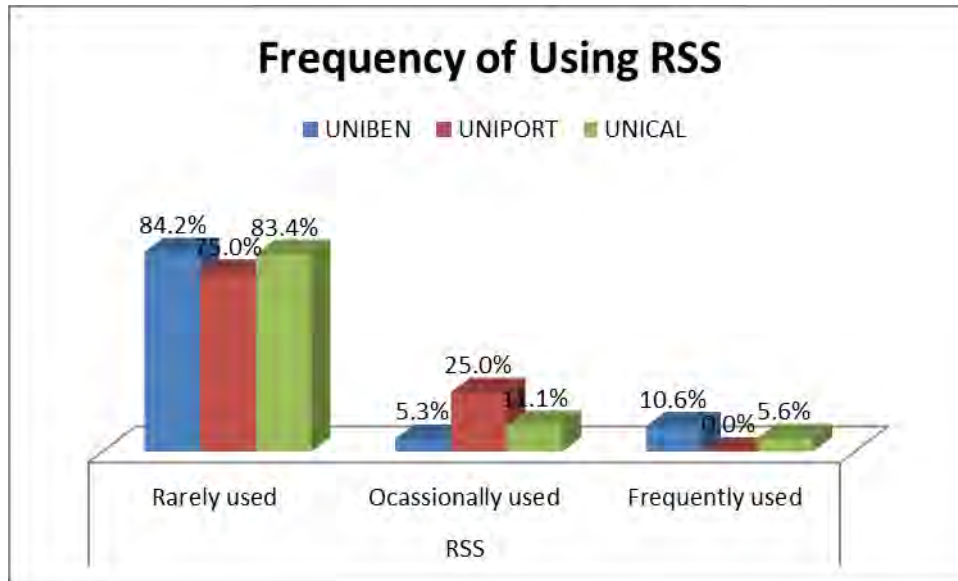


Figure 5.13: Cross-tabulation on Frequency of Using RSS (N=41) (Source: Empirical data)

Table 5.13: Chi-Square Test on Frequency of Using RSS

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.442 ^a	8	.904
Likelihood Ratio	4.387	8	.821
Linear-by-Linear Association	.052	1	.820
N of Valid Cases	41		

a. 13 cells (86.7%) have expected count less than 5. The minimum expected count is .10.

Majority of the respondents 35 (87.5%); UNIBEN 18 (90.0%), UNIPOINT 3 (75.0%) and UNICAL 14 (87.6%) noted “rarely used” when asked to indicate how frequent they used Podcast, the least response was 2 (5.0%); UNICAL 1 (6.3%), UNIBEN 1 (5.0%) and UNIPOINT no response that indicated “frequently used” while 3 (7.5%) of the respondents from all the university surveyed said they “occasionally used” this particular Web 2.0 tool. Below in figure 5.14 is the result of the frequency of using Podcast. The results of the Chi-Square test on the frequency of using Podcast by librarians in the surveyed universities in table 5.14 showed that there was no significant effect ($X^2 = 4.673$, $N = 40$, $df = 8$, $p = 0.792$).

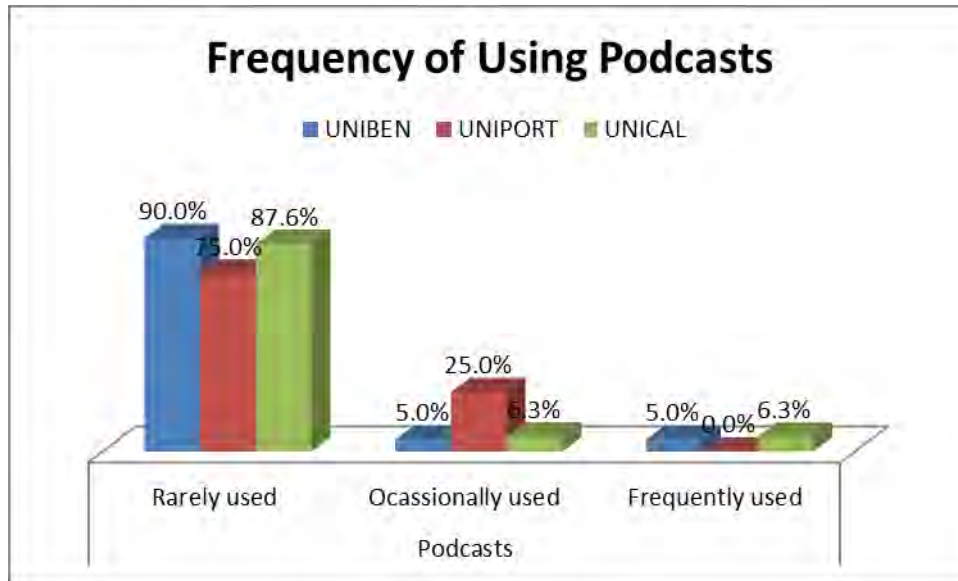


Figure 5.14: Cross-tabulation on Frequency of Using Podcast (N=40) (Source: Empirical data)

Table 5.14: Chi-Square Test on Frequency of Using Podcast

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.673 ^a	8	.792
Likelihood Ratio	4.806	8	.778
Linear-by-Linear Association	.021	1	.886
N of Valid Cases	40		

a. 13 cells (86.7%) have expected count less than 5. The minimum expected count is .10.

With respect to the statement on the frequency of using Social Bookmarking, only 14 (25.0%) of the respondents; 6 (24%) in UNIBEN, UNIPOINT 6 (60.0%), and UNICAL 2 (9.6%) responded –frequently used”, 6 (10.7%) of the respondents indicated they –occasionally used” it and majority of the respondents 36 (64.3%) consisting of (UNIBEN, UNIPOINT, and UNICAL at 15 (60.0%), 4 (40.0%) and 17 (80.9%) respectively) stated they do –rarely use” Social Bookmarking. Figure 5.15 presents the result for the frequency of using Social Bookmarking according to individual university. Data obtained from Chi-Square test in table 5.15 shows that there is no significant difference ($X^2 = 13.471$, $N = 56$, $df = 8$, $p = 0.097$) in the frequency of using of Social Bookmarking in the universities.

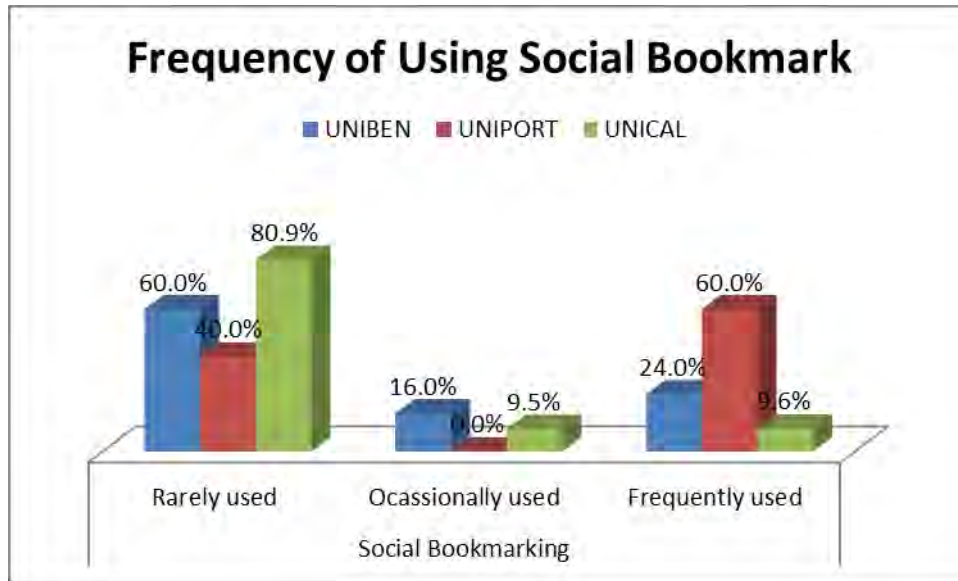


Figure 5.15: Cross-tabulation on Frequency of Using Social Bookmarking (N=56)
(Source: Empirical data)

Table 5.15: Chi-Square Test on Frequency of Using Social Bookmarking

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.471 ^a	8	.097
Likelihood Ratio	14.593	8	.068
Linear-by-Linear Association	1.273	1	.259
N of Valid Cases	56		

a. 12 cells (80.0%) have expected count less than 5. The minimum expected count is 1.07

Responding to the frequency of using Twitter in figure 5.16, 11 (32.3%) of the respondents from UNIBEN, 8 (42.2%) and 10 (43.4%) indicated, "rarely used". Another 10 (29.4%), 2 (10.5%), 6 (26.1%) of the respondents from UNIBEN, UNIPOINT and UNICAL respectively said that they "occasionally used" Twitter while UNIBEN 13 (38.2%), UNIPOINT 9 (47.4%) and UNICAL 7 (30.4%) indicated "frequently used". The result of the chi-square statistics in table 5.16 shows there is no significant difference ($X^2 = 5.201$, $N = 76$, $df = 8$, $p = 0.736$) among the three universities on the use of Twitter to market academic library.

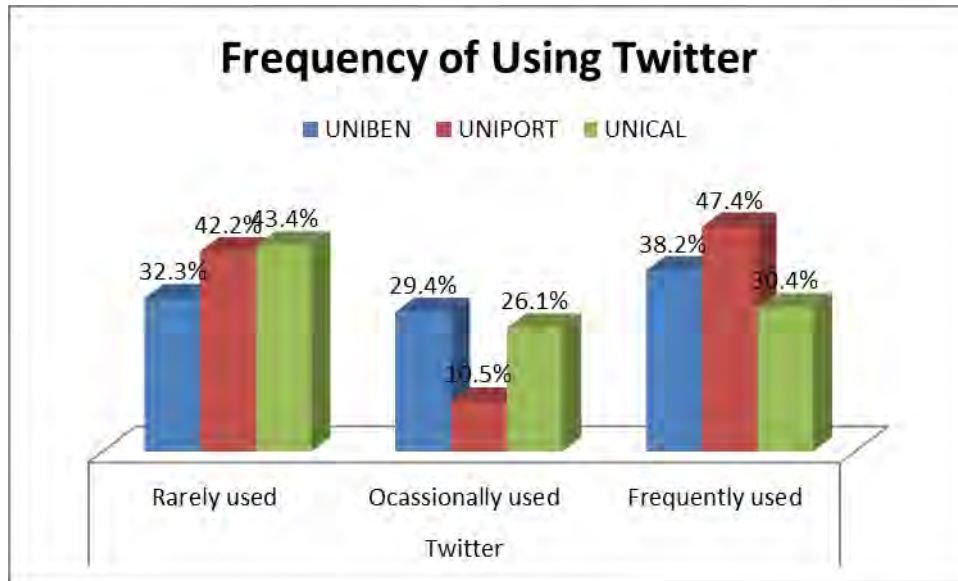


Figure 5.16: Cross-tabulation on Frequency of Using Twitter (N=76) (Source: Empirical data)

Table 5.16: Square Test on Frequency of Using Twitter

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.201 ^a	8	.736
Likelihood Ratio	6.082	8	.638
Linear-by-Linear Association	.259	1	.611
N of Valid Cases	76		

a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is 2.75.

5.10 Ways of Optimising the Use of Web 2.0 to Market Library Services

An open-ended question was asked to seek answers to research question four; to ascertain if academic libraries in South-South Nigeria had policies that guided the implementation of Web 2.0 tools in marketing of their services. The respondents were asked to state the best ways of optimising the use of Web 2.0 tools to market library services. Thematic content analysis showed that out of 108 only 47 respondents answered this question and 35 (74.5%) of the respondents suggested the library should provide adequate training and workshops for librarians, 13 (27.6%) stated provision of stable power supply and/or alternative power supply, while 12 (25.3%) noted adequate funding of the library would help optimise the use

of Web 2.0 to market library services. Some 8 (17.0%) also recommended the provision of facilities and enabling environment to use Web 2.0 tools, encouraging both librarians and users to utilise Web 2.0 tools used by the library 7 (14.9%) and providing orientation and educating users on how to use Web 2.0 tools 7 (14.9%). Another 7 (14.9%) suggested improving Internet access/ increasing Internet bandwidth, creating awareness about Web 2.0 tools used in the library 4 (8.5%), employing skilled personnel to manage and train librarians and students on the use of web 2.0 tools 3 (6.4%) and acquainting policy makers on the benefits of using Web 2.0 tools 2 (4.3%).

In order to understand the attitudes and perceptions of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services, respondents were also asked if they had any recommendations to make on the use of Web 2.0 tools to market academic library services. Although, the majority of the respondents 99 (91.7%) indicated no comment, 9 (8.3%) of the respondents were of the view that availability of the necessary facilities and marketing of the use of Web 2.0 tools would help. Other recommendations included head librarians engaging in proper dialogue with the management on Web 2.0 tools to boost the library image and performance, promoting the use of the Web 2.0 tools that students are interested in using, 5 (4.6%) stated librarians needed to be encouraged through constant training, to use Web 2.0, 2 (2.8%) commented that vital information on updates about Web 2.0 should be disseminated to all librarians for them to effectively use these tools in marketing library services.

Web 2.0 tools according to a respondent help to reach the users irrespective of their location as such its use for marketing academic library services should be encouraged, while another respondent suggested useful tools could also be downloaded and placed in an offline database to be accessible to users even when there no network.

5.11 Interview Responses

As stated in the methodology chapter, the mixed method combining both quantitative and qualitative approaches was utilised in the study. The quantitative method was the dominant approach; however, the qualitative method was used to complement the quantitative method. An interview schedule was administered purposively to select librarians. The respondents that were reached for interview are presented in table 5.17. The interview was conducted with principal librarians shown below.

Table 5.17: Profile of Interviewee (N=5)

S/N	Institution	Profile	Gender
1	UNIBEN	Web Librarian	Male
2	UNIBEN	Web Librarian	Male
3	UNIPORT	System Analyst	Male
4	UNIPORT	System Analyst	Female
5	UNICAL	Deputy University Librarian	Male

5.11.1 What Are the Web 2.0 Tools Used by the library?

Web librarian 1: We use Facebook, twitter, Google+, instant messages, and blog.

Web librarian 2: After creating the library web page in 2013, we started using Facebook, twitter, Google+, some of us use LinkedIn, RSS feeds, blog, Research gate, academia.edu

System Analyst 1: Facebook, Twitter

System Analyst 2: Facebook

Deputy Librarian: Facebook, Blog

5.11.2 Why Does the Library Use These Particular Web 2.0 Tools?

Web Librarian 1: They are used because of their wide coverage, virtually all students and most of the librarians use Facebook. Twitter is not necessarily used by staff but students. Many of the students follow the library on Twitter. This university is Google+ friendly and as such we use most of the Google applications.

Web Librarian 2: These tools are widely used by students.

System Analyst 1: Web 2.0 tools are user-friendly, and most people use it.

System Analyst 2: Most students already use Web 2.0 tools and in order to reach them where they are we decided to open a Facebook account.

Deputy Librarian: Popularity

5.11.3 Which of the Web 2.0 Tools Mentioned Are Used to Market Library Services?

Web librarian 1: Facebook (for staff and students), Google+, and Twitter

Web librarian 2: Facebook and Twitter

System Analyst 1: Facebook

System Analyst 2: Facebook

Deputy Librarian: Facebook and Blog

5.11.4. How Does the Library Advertise the Web 2.0 Tools to Get Followers?

Web Librarian 1: Through word of mouth, one good thing about Facebook is if you like a page, all your friends get to see it as well so we try to get our content very interesting and once a friend likes it, it goes viral. Facebook is another platform for users to chat with librarians.

Web Librarian 2: Via Staff meeting, through the library web page, word of mouth, reference queries and during registration.

System Analyst 1: Advertisement is done through word of mouth, encouraging and inviting librarians and students to like the Web 2.0 application used by the library.

System Analyst 2: We created a Facebook account, asked librarians to click like on the Facebook page and then the librarians also tell students to like it as well and membership increased.

Deputy Librarian: The library included all the Web 2.0 tools used on the library website, although presently, the website is being updated by the ICT unit.

5.11.5. Do these Web 2.0 Tools Achieve the Purpose of Marketing? If so How?

Web Librarian 1: I will say they have achieved the purpose, for instance, the Nigerian Library Association (NLA) always refers to John Harris Facebook page as a good example of how a library could make itself visible to users. Even non-Nigerians are following us on Facebook and Twitter because they are interested in getting information about Benin or University of Benin.

Web Librarian 2: Yes, a lot of users are using it.

System Analyst 1: Yes, we have a lot of followership.

System Analyst 2: Yes, but we can do more by being more interactive, for instance through live chat where users are able to interact with their subject librarian or a librarian can be on duty to attend to students chat.

Deputy Librarian: Not yet effective as we would want it to be.

5.11.6 Is there a Policy or Guidelines Regulating the Use of these Tools?

Web Librarian 1: There is no policy per se on the use of Web 2.0 tools in John Harris library, for those of us who use the tools we have the knowledge of online security we are mindful of the kind of information users should know and we try to abide by our own rules that say no profane language or posting of pornographic images or video or discussing of religion.

Web Librarian 2: There is no policy.

System Analyst 1: None, the staff just use their initiative

System Analyst 2: No policy

Deputy Librarian: None

5.11.7 Who Manages the Web 2.0 Tools?

Web Librarian 1: The Web analyst manages everything that has to do with the web presence of the library with the assistance of three other librarians. Lack of manpower actually made us stop the library Blog and Flickr.

Web Librarian 2: The Web System unit, they also create awareness, and enlighten library staff.

System Analyst 1: A library staff assigned.

System Analyst 2: A staff from IT section.

Deputy Librarian: E-library Staff (Systems analyst).

5.11.8 Do All Librarians have Awareness and use Web 2.0 Tools?

Web Librarian 1: The librarians are aware and provide input on our Facebook page, several articles have been published with information from our page. Current information on what is happening in the university are constantly posted or twitted. For instance, some of the library staff on strike right now login to Facebook to know what is trending. They basically rely on the information on our Web.

Web Librarian 2: Level of use is low

System Analyst 1: Yes, anyone can contribute.

System Analyst 2: All staff members are aware and make use of the library Facebook page.

Deputy Librarian: No, not everyone contributes.

5.11.9 What Expertise/Experience does the Librarian have of Web 2.0 Tools?

Web Librarian 1: There is no specific knowledge required, most of the librarians know how to use Facebook because of smartphone but cannot use Twitter very well or search Google+. I think that is the reason we use Facebook more because many of the staff don't tweet or check emails often.

Web Librarian 2: Interest.

System Analyst 1: None, basically, everyone knows how to use Facebook.

System Analyst 2: An in-house training was organised for staff members on how to open an account, update etc.

Deputy Librarian: None

5.11.10 Does the Library Provide Training for Librarians on the Use of Web 2.0 Tools?

Web Librarian 1: We have only organised training on how to navigate our library website so students would not have to wait for the web librarian but can ask for assistance from any of the library staff. We also do several training on Google applications as well because our school use most of the applications.

Web Librarian 2: No training has been organised except the one by the American embassy.

System Analyst 1: Yes, but more has to be done.

System Analyst 2: In-house training.

Deputy Librarian: No.

5.11.11 Have the Methods of Marketing Library Services been Effective both in terms of Initial Outlay and Staff Costs Overtime?

Web Librarian 1: On a scale of 1-10, I would rate it 4 because not everyone gets to see what we post online, right now we are trying to ask for volunteers in the library that will assist in intensive marketing using posters and flyers to create awareness and attract users to the

library. We do not want to rely only on online marketing; this is because we are only reaching those who are online and not the majority of students who do not use these tools. We have a tool that checks and give statistics of how many users login to our website and their navigation history.

Web Librarian 2: It has been cost effective because we are not paying subscription.

System Librarian 1: Yes.

System Librarian 2: Internet connection is the only cost involved and with more funds, the library will do better.

Deputy Librarian: Not yet effective, still at the implementation stage.

5.11.12 What are the best ways to Integrate Web 2.0 into Marketing?

Web Librarian 1: Employing more staff and each staff designated to a particular job. Library staff should also find out what Web 2.0 tools students/users prefer to use with the library, even if it means sharing questionnaires to determine their preference. Adopt the tools and embark on massive marketing. It is not just about meeting them where they are but the Web content should be interesting. There should also be an instant messaging tool on the web page. There is also no specific budget; we are only moved by our passion to be like our contemporaries in developed countries.

Web Librarian 2: We should have a policy in place. Improve access. Create more awareness, organise training on how to use Web 2.0 tools.

System Analyst 1: Create awareness on the importance and benefits of using these tools to market the library.

System Analyst 2: Re-orientation of the library staff. Changing the mindset of the staff about the use of Web 2.0 tools as well as their approach to users. Library staff should have the basic knowledge of the tools. YouTube, Twitter are some of the tools we are looking at and create awareness on how to man these tools.

Deputy Librarian: Implementation of more Web 2.0 tools and improving on what we have.

5.12 Demographic Data of Students

The following sections present the demographics data analysis of students, such as students by institution, the gender of students, the age of student and level of students.

5.12.1 Students by Institution

As previously mentioned, two hundred and fifty-six questionnaires were distributed to students in the three institutions surveyed. The results are presented in figure 5.17 showing that 88 (34%) of the respondents are from UNIBEN, 91(36%) from UNIPORT and 77(30%) from UNICAL respectively.

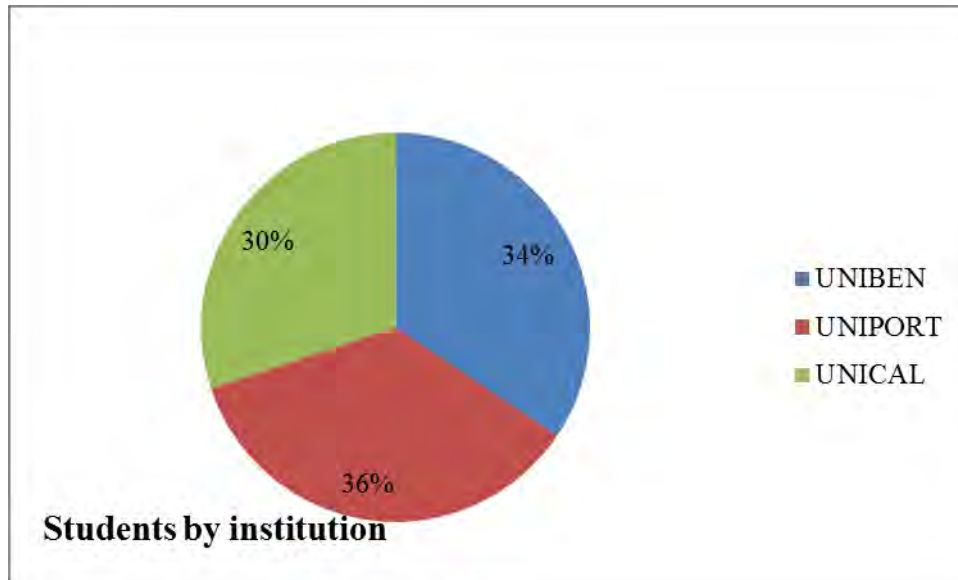


Figure 5.17: Students' Affiliation (Source: Empirical data)

5.12.2 Gender of Students

The results presented in figure 5.18, indicates that a higher number of the respondents 143 (59%) are male while 113(41%) are female.

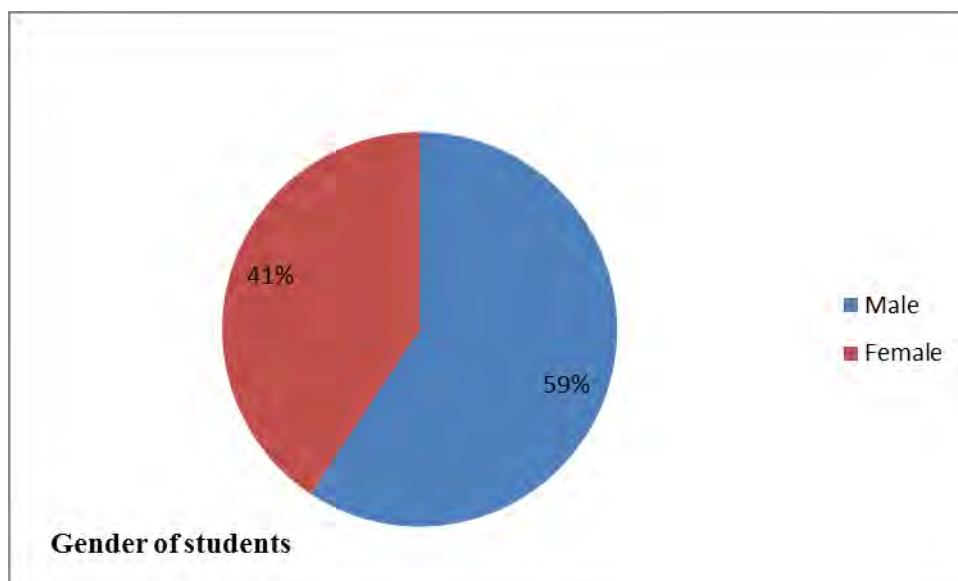


Figure 5.18: Gender of students (Source: Empirical data)

5.12.3 Age of Students

Figure 5.19 depicts the age category of respondents surveyed. Majority of the respondents 133 (52%) were between the age range of 21-25 years, followed by the age range of 15-20 years at 62(24%) respectively. The third category is in the age range of 26-30 years at 47 (18%), a few of the respondents were between the age range of 31-35 years 12(5%) and the least were the age range of 36-40 years and 41 years and above respectively.

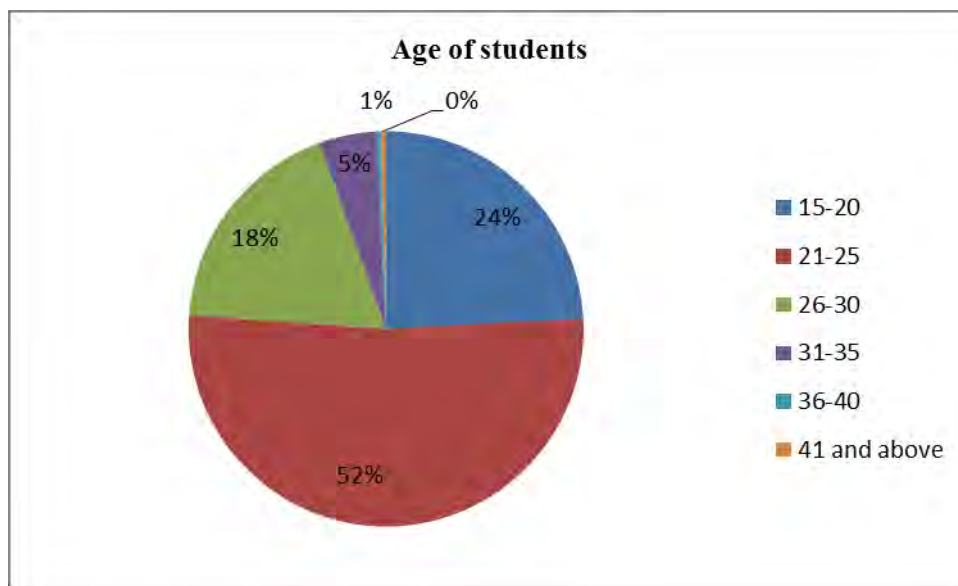


Figure 5.19: Age of Students (Source: Empirical data)

5.12.4 Level of Study of Students

The results presented in figure 5.20 show the distribution of respondents according to the level of study. Results indicate that 123(48%) of the respondents are in their “third-year level” and 133(52%) were in their “fourth-year level” of study in the surveyed institutions.

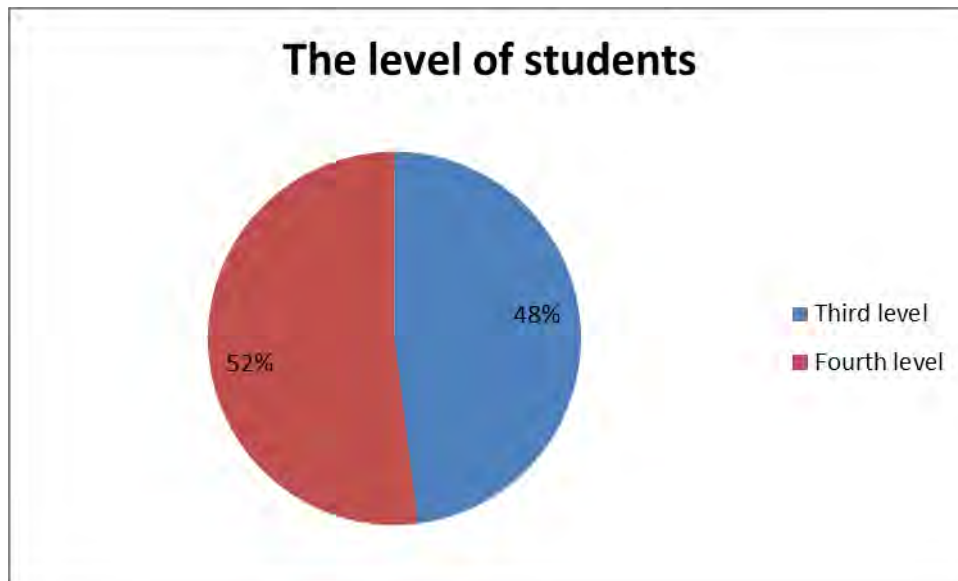


Figure 5.20: Level of Study of Students (Source: Empirical data)

5.13 Quantitative Data Analysis for Students

This section presents quantitative data analysis of students surveyed.

5. 13.1 Web 2.0 Tools Students would most likely Use to Access Library Services

The results presented in table 5.18 reveal that students were most likely to access the library using Internet Forum 58.2% Facebook 55.8%, YouTube (39.4%), Academia edu (32.8%), Twitter (30.8%), Blogs (28.1%) and Instant Messages (21.9%). A few other tools with percentages lower than 20% that students were likely to use are Pictures, Wordpress, Message Boards, and others. The result presented above indicates that students are willing and have the intention (behavioural intention) to use Web 2.0 tools used by the library to market its services. It implies largely that intention to use Web 2.0 tools is determined by the ability of the library to meet the expectations by providing an enabling environment and facilities to enable them to utilise the tools.

Table 5.178: Web 2.0 Tools Students would most likely Use to Access Library Services (N=256)

Web 2.0 tools	Library						TOTAL (*N=256)	
	UNIBEN (n=88)		UNIPOINT (n=91)		UNICAL (n=77)			
Internet Forum	39	44.3%	59	64.8%	51	66.3%	149	58.2%
Facebook	50	56.8%	41	45.0%	52	67.5%	143	55.8%
YouTube	45	51.1%	23	25.3%	33	42.8%	101	39.4%
Academia edu.	36	40.9%	19	20.9%	29	37.7%	84	32.8%
Twitter	29	32.9%	25	27.5%	25	32.5%	79	30.8%
Blogs	31	35.2%	17	18.7%	24	31.2%	72	28.1%
Instant Message	32	36.4%	30	33.0%	22	28.6%	56	21.9%
Pictures	19	21.6%	18	19.8%	14	18.2%	51	19.9%
Wordpress	17	19.3%	9	9.9%	16	20.8%	42	16.4%
Message Board	18	20.4%	14	15.4%	8	10.4%	40	15.6%
Wikis	21	23.9%	8	8.8%	8	10.4%	37	14.4%
iTune	11	12.5%	6	6.6%	11	14.3%	27	10.5%
LinkedIn	10	11.4%	6	6.6%	6	7.8%	26	10.1%
RSS feeds	9	10.2%	8	8.8%	4	5.2%	21	8.2%
Flickr	12	13.6%	5	5.5%	3	3.9%	20	7.8%
Myspace	9	10.2%	7	7.7%	4	5.2%	20	7.8%

5.13.2 Reasons Students would not Use Web 2.0 Tools to Access Library Services

Respondents were asked to indicate reasons they would not use Web 2.0 tools to access library services. The results presented in table 5.19 show “privacy issues” 67 (26.2%), “don’t have the skill to use Web 2.0 tools” 65 (25.4%), “not interested in whether the library uses Web 2.0 tools to offer services or not” 27 (10.5%) and “not interested” 20 (7.8%).

Table 5.189: Reasons Students would not Use Web 2.0 Tools to Access Library Services (N=256)

Reasons for not using Web 2.0 tools to access library services	Library						TOTAL (N=256)	
	UNIBEN (n=88)		UNIPOINT (n=91)		UNICAL (n=77)			
Don't have the skills to use Web 2.0 tools	25	28.4%	21	23.1%	19	24.7%	65	25.4%
Not interested in the use of Web 2.0 tools	11	12.5%	3	3.3%	6	7.8%	20	7.8%
Not interested in whether the library uses Web 2.0 tools to offer services or not	11	12.5%	8	8.8%	8	10.4%	27	10.5%
Privacy issues	25	28.4%	31	34.1%	34	44.1%	67	26.2%

5.13.3 What would Motivate Students to Join a Web 2.0 Page and Follow Such a Page?

The researcher sought to ascertain what would lead respondents to follow Web 2.0 application used to market library services. The results revealed that most of the respondents 139 (54.3%) said through “promotional materials in the library”, 69 (26.9%) “link through library website” and 67 (26.2%) “through search engine” respectively. Some of the respondents 49 (19.1%) suggested “through an advert on social media” and the least response was for “word of mouth in the library” 25 (9.8%). The results are presented in table 5.20.

Table 5.20: What would Motivate Students to Join a Web 2.0 Page and Follow Such a Page (N=256)

	Library						TOTAL (N=256)	
	UNIBEN (n=88)		UNIPOINT (n=91)		UNICAL (n=77)			
Promotional material in the library	44	50.0%	55	60.4%	40	51.9%	139	54.3%
Word of mouth in the library	11	12.5%	12	13.2%	2	2.6%	25	9.8%
Link through library website	21	23.9%	24	26.4%	24	31.2%	69	26.9%
Through search engines	37	42.0%	16	17.6%	26	33.8%	67	26.2%
Through an advert on social media	20	22.7%	13	14.3%	16	20.8%	49	19.1%

5.13.4 What are the Services provided by the Library through the Use of Web 2.0

Tools?

The results presented in table 5.21, show that most of the respondents 132 (51.6%) cited “reference/research assistance”, followed by “promote distance learning” 96 (37.5%), “publicising newly acquired material and service alerts” 91 (35.5%), “get library news and events around the world” 77 (30.1%), “promote services, library collections, events, and resources” 70 (27.3%), “communicate with users” 63 (24.6%), “communication among participants” 62 (24.2%), “current developments in different fields” 56 (21.9%), and “create professional connections” 53 (20.7%). The least responses were; “spread news about the events in other libraries” 48 (18.7%), “collaborate and share of work” 47 (18.3%), “share videos conferences, workshops and library events” 45 (17.6%), “upload library images” 35 (13.7%), “solicit patrons’ feedback” 22 (8.6%) and “conduct virtual conference” 15 (5.8%).

Table 5.191: What are the Services provided by the Library through the Use of Web 2.0 Tools? (N=256)

Services	Library						TOTAL (N=256)	
	UNIBEN (n=88)		UNIPOINT (n=91)		UNICAL (n=77)			
Conducting virtual conference	11	12.5%	4	4.4%	1	1.3%	15	5.8%
Soliciting patrons' feedback	11	12.5%	2	2.2%	9	11.7%	22	8.6%
Publicizing new acquired material and service alerts	43	48.9%	22	24.2%	26	33.8%	91	35.5%
Spreading news about the events in other libraries	21	23.9%	8	8.8%	19	24.7%	48	18.7%
Collaboration and sharing of work	16	18.2%	12	13.2%	19	24.7%	47	18.3%
Getting library news and events around the world	37	42.0%	15	16.5%	25	32.5%	77	30.1%
Reference/research assistance	45	51.1%	43	47.2%	44	57.1%	132	51.6%
Creation of professional connections	24	27.35%	11	12.1%	18	23.4%	53	20.7%
Promotion distance learning	47	53.4%	22	24.2%	27	35.1%	96	37.5%

Uploading library images	8	9.1%	17	18.7%	10	13.0%	35	13.7%
Sharing videos conferences, workshops and library events	15	17.0%	12	13.2%	18	23.4%	45	17.6%
Communication with users	23	26.1%	17	18.7%	23	29.9%	63	24.6%
Current developments in different fields	22	25.0%	18	19.8%	16	20.8%	56	21.9%
Tagging and developing online catalogue of library resources	22	25.0%	11	12.1%	8	10.4%	41	16.0%
Promoting services, library collections, events, and resources	19	21.6%	28	30.8%	23	29.9%	70	27.3%
Communication among participants	25	28.4%	19	20.9%	18	23.4%	62	24.2%

5.13.5 Information Students would like to see on their Library Web 2.0 Application

Asked to indicate what kind of information they would like to see on their library Web 2.0 application in table 5.22, the majority of the respondents 203 (79.3%) chose “new books and resources”, the second highest response was updates 138 (53.9%), followed by “reference services” 118 (46.1%), “reviews” 80 (31.2%), “links to related pages” 76 (29.7%) and “community news” 63 (24.6%) while “pictures” 43 (16.8%) had the least response.

Table 5.202: Information Students would like to see on their Library Web 2.0 Application (N=256)

	Library						TOTAL (N=256)	
	UNIBEN (n=88)		UNIPOINT (n=91)		UNICAL (n=77)			
New books and resources	77	87.5%	63	69.2%	63	81.8%	203	79.3%
Reference services	42	47.7%	33	36.3%	43	55.8%	118	46.1%
Updates	52	59.1%	41	40.0%	45	58.4%	138	53.9%
Reviews	33	37.5%	20	22.0%	27	35.1%	80	31.2%
Pictures	18	20.4%	13	14.3%	12	15.6%	43	16.8%
Community news	33	37.5%	9	9.9%	21	27.3%	63	24.6%
Links to related pages	33	37.5%	24	26.4%	19	24.8%	76	29.7%

5.13.6 Web 2.0 Tools the Library Plans to Implement in the Future

Table 5.23 presents results on the Web 2.0 tools the library plans to implement. Surprisingly, there was low response in all categories starting with –Blogs” 36 (14.1%), –Instant Message” 27 (10.5%), –Message Boards” 26 (10.1%), –Wordpress” 23 (9.0%), –Wikis” 17 (6.6%), –Pictures” 12 (4.7%), –Podcast” 8 (3.1%) while the response for the category of respondents that indicated –None” was 46 (18.0%).

Table 5.213: Web 2.0 Tools the Library Plans to Implement in the Future (N=256)

Web 2.0 tools	Library						TOTAL (*N=256)	
	UNIBEN (n=88)		UNIPOINT (n=91)		UNICAL (n=77)			
Message board	15	17.0%	8	8.8%	3	3.9%	26	10.1%
Blogs	13	14.8%	14	15.4%	9	11.7%	36	14.1%

Instant Message	11	12.5%	9	9.9%	7	9.1%	27	10.5%
Wordpress	10	11.4%	12	13.2%	1	1.3%	23	9.0%
Wiki	9	10.2%	4	4.4%	4	5.2%	17	6.6%
Pictures	5	5.7%	4	4.4%	3	3.9%	12	4.7%
Podcast	5	5.7%	2	2.2%	1	1.3%	8	3.1%
None	14	15.9%	20	22.0%	12	15.6%	46	18.0%

5.13.7 Other Methods the Library could Use to Market Library Services to Students

When respondents were asked to state other methods the library could use to market its services, majority of the respondents 122 (47.6%) said “library website”, “e-mail” 112 (43.7%), “publicity material” 96 (37.5%), “posters and leaflets” 90 (37.1%), “TV 71 (27.7%), “radio” 52 (20.3%), “word of mouth” 43 (16.8%), “local newspaper” 42 (16.4%) and “by post” 36 (14.1%).

5.13.8 Advantages of Libraries Using Web 2.0 Applications

Respondents were asked to state if they thought libraries using Web 2.0 applications were more advantaged over those that did not use these tools. The result shown in Table 5.24, show that 78 (89.7%) of the respondents from UNIBEN said “yes”. Similarly, UNIPORT 67 (80.7%) and UNICAL 68 (86.2%) were also affirmative that libraries that used Web 2.0 tools in marketing their services were advantaged compared to those that did not. The results are tabulated in 5.24 below.

Table 5.224: Advantages of Libraries Using Web 2.0 Applications (N=247)

Institution	Advantages of Web 2.0 tools		Total
	Yes	No	
UNIBEN Count	78	9	87
% within library	89.7%	10.3%	100%
UNIPORT Count	67	16	83
% within library	80.7%	19.3%	100%

UNICAL Count	68	9	77
% within library	86.2%	13.8%	100%
Total Count	213	34	247
% within library	86.2%	13.8%	100%

5.13.9 Importance of Web 2.0 Tools for Marketing and Promoting Library Services

With respect to rating the importance of using Web 2.0 tools to market and promote library services, the majority of the respondents (93.3%) as presented in table 5.25, affirmed it is “important” while 3.5% were “neutral” and 3.2% indicated it was “unimportant”.

Table 5.235: Importance of Web 2.0 Tools for Marketing and Promoting Library Services (N=253)

Institution	The importance of Web 2.0 tools for marketing and promoting library services			Total
	Important	Neutral	Unimportant	
UNIBEN Count	83	3	2	88
% within library	94.3%	3.4%	2.3%	100%
UNIPORT Count	84	3	3	90
% within library	93.3%	3.3%	3.3%	100%
UNICAL Count	69	3	5	77
% within library	89.6%	3.9%	6.5%	100%
Total Count	236	9	8	253
% within library	93.3%	3.5%	3.2%	100%

5.13.10 Best Ways to Implement Web 2.0 Tools in the Library

With respect to the question on respondents’ views on the “best ways to implement Web 2.0 tools in your library”, of the 120 respondents that responded 40 (33.3%) noted librarians should be given adequate training so that they can in turn train the students to use the tools,

27 (22.5%) stated the need for constant orientation of library users on the use of Web 2.0. Another 23 (19.2%) respondents suggested the library should create awareness on the Web 2.0 tools available for use at the library, 21 (17.5%) averred students be encouraged to use the tools, while 16 (13.3%) suggested providing facilities and an enabling environment to help in the implementation of Web 2.0 tools. In addition, 14 (11.7%) said the library must improve and upgrade Internet access, 13 (10.8%) opined the parent institution should ensure there is adequate funding for libraries, while 12 (10.0%) stated that the library should ensure Web 2.0 tools are easily accessible (via the library website).

Some of the respondents 10 (8.3%) also observed marketing library services with Web 2.0 tools would encourage users to use Web 2.0 tools, while 8 (6.7%) suggested the employment of skilled staff and provision of reliable/stable power and 7 (5.8%) updating the Web 2.0 tools regularly. Others, 6 (5.0%) recommended the use of Web 2.0 tools to be part of General Studies (GS) curriculum and 5 (4.2%) stated that the management should implement a policy on use of Web 2.0.

Furthermore, respondents were asked if they had any other view on “using Web 2.0 for marketing libraries services”, 17(6.6%) of the respondents cited; a policy framework that creates Internet access for each faculty library, and creating more awareness. Other recommendations from respondents included; increasing the Internet bandwidth and time allocated to student to use it, giving out posters and leaflets periodically in order to inform students of the library services, the promotion of Web 2.0 tools through posters and leaflets and training students who are not conversant with the Web 2.0 tools, the use of Web 2.0 tools should be taken as a general course in universities so that students can acquire the necessary skills, and the library should also use Web 2.0 tools as medium for Current Awareness Service (CAS), for updates on new management laws such as closing hours, opening hours and more. All the respondents 17 (6.6%) concluded that the use of Web 2.0 tools as a social media tool would improve transmission of information and should be implemented for all institutions of learning.

5.14 Summary of Findings

The findings gathered through a questionnaire for librarians were presented first in this chapter followed by findings of the structured interview for library staff and finally questionnaire for students. The result revealed that majority of the respondents in the staff category was female. Besides, most of the respondents were within the age range of 41-45

years. However, for student respondents, the majority of them were male with most of them being in the age range of 21-25 years.

The results revealed the most commonly used Web 2.0 tools to market library services were Facebook (96.3%), Twitter (70.4%), Instant Message (51.9%), and Internet Forum (47.2%) respectively. Moreover, the degree of use of Web 2.0 in each institution differs, for instance, the use of Twitter, Instant Message and Internet Forum was more in UNIBEN compared to UNIPORT and UNICAL. Hence, UNIBEN comparatively used more of the Web 2.0 tools than UNIPORT and UNICAL.

In terms of marketing of library services using Web 2.0 tools, the results revealed Facebook (93.5%), Twitter (48.1%), Instant Message (37.9%), Pictures (18.5%), Blogs (23.4%), and YouTube (23.1%). However, when analysis was done according to institution, the results indicate that using the aforementioned Web 2.0 tools to market library services was significantly higher in UNIBEN than UNIPORT and UNICAL respectively. There was no significant difference though in the use of Internet Forum, Academia edu and LinkedIn in all the institution surveyed. Results also revealed that most of the respondents used Web 2.0 tools to promote library services (91.7%), reach a new audience of potential users (63.0%), push library news, press release and provide quick updates to users (62.0%) and reference services online (54.6%). Other purposes for which Web 2.0 tools were used were to modernise the library image and e-reputation, spread library news and service alerts, training, collaborating with colleagues in other libraries, image and video sharing and Blogging as well as social tagging and bookmarking.

The results of the structured interview were generally consistent with the survey questionnaires. The results from data gathered on students indicated Web 2.0 tools they would most likely use were Internet Forum 149 (58.2%), Facebook 143 (55.8%), YouTube 101 (39.4%), Academia edu 84 (32.8%), Twitter 79 (30.8%), Blogs 72 (28.1%) and Instant Messages 56 (21.9%). The results also indicated some of the reasons respondents would not use Web 2.0 tools that included privacy issues 67 (26.2%), not having the skill required to use Web 2.0 tools 65 (25.4%), not interested in the use of Web 2.0 tools 20 (7.8%) and not interested in whether the library uses Web 2.0 tools to market library services or not 27 (10.5%). However, the respondents indicated they would be encouraged to use Web 2.0 tools through promotional materials 139 (54.3%), linking through library website 69 (26.9%) and

search engines 67 (26.2%) advertising on social media 49 (19.1%) and word of mouth 25 (9.8%).

The results further showed that library used Web 2.0 to offer students reference/research assistance 132 (51.6%), promote distance learning 96 (37.5%), publicise newly acquired material and service alerts 91 (35.5%), give library news and events around the world 77 (30.1%), promoting services, library collections, events, and resources 70 (27.3%), communicate with users 63 (24.6%), communication among participants 62 (24.2%), current developments in different fields 56 (21.9%), creating professional connections 53 (20.7%), –spreading news about the events in other libraries” 48 (18.7%), –collaborating and sharing work” 47 (18.3%), –sharing videos conferences, workshops and library events” 45 (17.6%), –uploading library images” 35 (13.7%), –soliciting patrons’ feedback” 22 (8.6%) and –conducting virtual conference” 15 (5.8%).

The results of the survey revealed that libraries using Web 2.0 applications were advantaged compared to those that did not. The results revealed the need to provide more funding for the library, provide adequate facilities and enabling environment, create awareness, train library staff and students, market library services with Web 2.0 tools, provide reliable and stable power, employ skilled staff, and update regularly the Web 2.0 tools used. The respondents also expressed the need to ensure the Web 2.0 tools were accessible and utilised, improved Internet access, and making the use of Web 2.0 tools as part of the curriculum.

CHAPTER SIX

DISCUSSION OF FINDINGS

6.1 Introduction

This chapter presents the discussion of findings of the study. The discussion determines whether the data analysis supports the general conclusions drawn from the research, to answer the research question (6 & Bellamy, 2012). The aim of this study was to explore the effectiveness of using Web 2.0 tools to market academic libraries services in selected Nigerian universities in the South-South region. The findings of the study were guided by the following research questions; 1.) What are the Web 2.0 tools used by academic libraries in South-South Nigeria? 2.) To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services? 3.) What are the attitudes and perceptions of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services? 4.) What policies guide academic libraries in South-South Nigeria in the implementation of Web 2.0 tools for effective marketing of their services?

The following sections cover demographics of respondents, Web 2.0 tools used by academic libraries, Web 2.0 tools used for marketing academic library services, Web 2.0 tools no longer used, Web 2.0 tools which the libraries plan to implement in the future, the purposes for which Web 2.0 tools are used by academic libraries, the frequency of using Web 2.0 tools, ways of optimising the use of Web 2.0 to market library services and summary.

6.2 Demographics of Respondents

Demographic information involves personal characteristics of respondents such as gender, age, occupation, and the level of education. They assist a researcher in developing strategies for the target population (Brink, Van der Walt, & Van Rensburg, 2012). Respondents (librarians) were asked to provide demographic information on their institutional affiliation, gender, age, level of education, duration of working in the current job and position held in their institutional library. On the other hand, students (respondents) provided demographic information on institutional affiliation, gender, age and level of study.

The results revealed that the majority of respondents 42 (39%) were from UNIBEN, and 26 (24%) were from UNIPORT. The results on gender showed that, out of the one hundred and eight (108) respondents surveyed, 60 (56%) of them were female while the remaining 48 (44%) were male. The result indicates an imbalance between males and females in the

universities surveyed. Data from an online survey on the “challenges of library succession planning in the Mekong Delta, Vietnam” showed that there were more women than men in librarianship (Huynh, 2015). Female librarians dominated the workforce in the University of Botswana library at 73.3% (22) female staff and 26.7% (8) male staff (Mpoeleng, Totolo, & Jibril, 2015). In the United States studies have shown that there are 83% women librarians (Beveridge, Weber, & Beveridge, 2011; Lee, Oh, & Burnett, 2016) compared to male. In Kuwait Alqudsi-ghabra and Al-Muomen ((2012) observed there are more women in librarianship than male while the ratio in Jamaica is four females to one male in librarianship (Lambert & Newman, 2012). However, in Middle Eastern studies show the number of male and females in librarianship is balanced (Salamon, 2015). These results from across the world generally suggest that the library profession is still dominated by the female.

Findings in the current study on the age of the surveyed respondents showed a majority of the librarians 24 (22%), were between the ages of 41 –45, 41(38%) were in the age range of 20-25, 26-30, 46-50, 50 and above. Franks (2012) observed 62% of librarians in Australia are over 45 years of age with 58% of librarians in the United States over 45 years of age while only 38% and 39% of all workers in Australia and the United States, respectively, are aged 45 or older. Munde (2010) examined managing an increasingly intergenerational workforce in libraries. The findings which were similar to those of Munde and Coonin (2015) who revealed that 46% of respondents were 48 years or younger, while 54% were 49 years old or older.

Most of the librarians 53 (49%) as shown in figure 5.4 were holders of master’s degrees and 7 (6%) were holders of diploma certificates. An empirical study on “indices of job stress and job satisfaction among academic librarians in selected federal universities in South West Nigeria” revealed master’s degree holders constituted a larger proportion of the respondents’ qualification and bachelor degree holders and PhD holders were 7 (8%) and 6 (6.9%) respectively. This result may be attributed to the fact that Master degree is mainly considered as the entry point to the librarianship profession (Ogunlana, Okunlaya, Ajani, Okunoye, & Oshinaike, 2013). Similarly, the majority of the university library staff in a study by Mpoeleng, *et al.* (2015) at the University of Botswana had a master’s degree at 73.3% (22) followed by a bachelor’s degree at 23.3% (7) and only one participant had a diploma. This result demonstrates that the University of Botswana library has realistically qualified staff.

Baro, Idodi *et al.* (2013) in a study on the "awareness and use of Web 2.0 tools by librarians in university libraries in Nigeria" also found that among the 176 respondents, 52 (29.5%) hold bachelor's degree, 106 (60.2%) hold Masters degrees, while 18 (10.2%) are PhD degree holders in library and information science. Partridge, Menzies, Lee and Munroe (2010:270), investigated the knowledge, skills and attitudes needed by LIS professionals in a world of emerging and changing technologies such as 'Web 2.0'. One of the key findings of their study was that "there is a demand for graduates with a knowledge base that spans the major areas of librarianship including archives and records". The study conducted by Gerolimos, Malliari, and Iakovidis (2015) revealed that a LIS degree, especially when offered by an ALA-accredited institution, remains essential to work in a US academic library.

Findings on the length of time librarians have spent in their current jobs revealed most 34 (32%) of the respondents indicated they had been in their job for between 1-10 years; while the least responses 5 (5%) had spent 26-31 years and above respectively. The findings suggest that the majority of librarians in academic libraries in South-South Nigerian had spent between 1-10 years in their current job. Similarly, a study on "criteria for effective authentic personal branding for academic librarians in Universiti Sains Malaysia" found librarians 23.9% and 23.1% of respondents respectively had spent 6 - 15 years working at their respective stations (Ahmad, Hashim, & Harun, 2016). Munde and Coonin (2015) observed the median number of years of professional academic library experience was in the range of 11- to 15-years, while 51% of respondents had 16 or more years of experience. The results were comparable to an average of 17 years of experience for the 8,512 librarians reported in the 2009–2010 ARL Salary Survey (Kyrillidou & BLAnd, 2010).

The result as presented in figure 5.6, on the position held by respondents' in the surveyed university libraries revealed a few of the librarians 10 (9%) were senior librarians, and most 37 (34%) of the respondents were in the position of librarian II and librarian I respectively. Baro, *et al.*'s (2014) study revealed that fifty-six (40%) of the respondents were Assistant Librarians, 27 (19.3%) hold Librarian II positions, 22 (15.7%) were in Librarian I positions and 17 (12.1%) were Senior Librarians. In addition, eight (5.6%) of the respondents were Principal Librarians and five (3.6%) were Deputy University Librarians and University Librarians respectively. A study conducted by Baro, Idiodi and Godfrey (2013) on the "awareness and use of Web 2.0 tools by librarians in university libraries in Nigeria" found that 54 (30.7%) were Assistant Librarians, 51 (29%) were in Librarian II positions, 27 (15.3%) were in Librarian I positions, 16 (9.1%) were Senior Librarians, nine (5.1%) were

Principal Librarians, nine (5.1%) were Deputy University Librarians, and ten (5.7%) were holding the position of University Librarian.

From the student population, 91 (36%) were from UNIPORT and 77 (30%) were from UNICAL. Results further revealed that 143 (59%) of the respondents were male while 113 (41%) were female. The majority of the respondents 133 (52%) were between the age of 21-25 years and 1 (0.4%) was in the age range of 36-40 years. The gender balance of respondents was heavily weighted towards females, at 68%. Besides, 76% of the respondents were under 25 years of age while the majority were in the age range of 20-24 years. Furthermore, 123 (48%) of the respondents were in their "third year level" of study and 133 (52%) were in their "fourth-year level" of study at the surveyed institutions.

6.3 Web 2.0 Tools used by Libraries

The results revealed that Facebook 104 (96.3%) was the most widely used Web 2.0 tool across the universities surveyed, others were Twitter, Instant Message and Internet Forum, and YouTube. This was followed by Academia edu, LinkedIn, and Blogs. Pictures, RSS Feeds, Wordpress, Wikis, and Message Board ranked the lowest. Regarding the use of Web 2.0 tools by individual universities the results revealed as shown in Table 5.2 that within the universities, UNIBEN was using more of Facebook, Twitter and Instant Message, YouTube, LinkedIn, Academia edu, Pictures, RSS feeds and Wordpress than UNIPORT and UNICAL.

The results presented above revealed that universities in South-South Nigeria were aware of and had adopted Web 2.0 tools in their libraries as shown in chapter 3: section 3.3. These Web 2.0 tools include Facebook, Blogs, Wikis, Tags, Bookmarking, Podcast, WordPress, Twitter, YouTube and many more. These tools have been applied around the world to enhance library collaboration, interaction, scholarly communication, marketing, supporting research and teaching (Baro, Ebiagbe, *et al.*, 2013; Charnigo & Barnett-Ellis, 2013; Chu & Du, 2012; Echeng & Usoro, 2014; Fire *et al.*, 2014; Li, 2013; Lwoga, 2012; Muruli & Gireesh Kumar, 2013).

Tripathi and Kumar (2010); Kumar (2013) found that academic libraries use Web 2.0 tools to maintain a virtual library, provide community book services, provide community photo services, streaming audio and video, chatting, Bookmarking and more. Chu and Du (2012) found that librarians found it advantageous using Web 2.0 to communicate with colleagues and in answering users' enquiries. The results from interviews indicated that librarians used Facebook to publish articles. They used Twitter to provide current information on what is

happening in the university. For instance, some of the library staff who were on strike at the time of interview used Facebook to know what was trending.

Collins and Quan-Haase (2012) surveyed academic libraries usage pattern of Facebook, Twitter, YouTube and Flickr as the most popular Web 2.0 tools. Findings revealed that adoption and use of Web 2.0 tools were higher in the South-Western Ontario whilst in the Eastern and Northern Ontario libraries adoption and use was low. The findings further revealed that Twitter was the most used tool amongst the academic libraries, followed by Facebook while YouTube was the least used and Flickr was not used at all. The low use of the tools was attributed to the librarians' tendency of infrequent personal use of some of the Web 2.0 tools themselves thereby rendering the tools irrelevant in a library setting. These results corroborate results of the current study that found Facebook as the most used Web 2.0 tools, followed by Twitter, Instant Message, and Internet Forum while YouTube, Academia.edu, LinkedIn, Blogs, Pictures, RSS Feeds, Wordpress, Wikis were the least used Web 2.0 tools. The use of these tools also differed in the institutions surveyed; UNIBEN used the tools more than UNIPORT and UNICAL. Luo (2010) investigated the use of Web 2.0 in information literacy instruction. The findings revealed librarians were using Web 2.0 tools to facilitate the delivery of content to students. The librarians either used the tools to publish content for students to access and interact with or involve students in using the tools to complete coursework collaboratively or enhance interaction.

Si *et al.* (2011) conducted a study regarding the application of Web 2.0 by 30 Chinese university libraries. They found that Wiki was the only Web 2.0 technology adopted by one (1) academic library for cataloguing in providing information about cataloguing rules, work logs and staff responsibilities and staff personal details. The authors found that fifteen (15) libraries were using RSS for news or notification on new acquisitions, customised subject information, and availability of reservations. Fourteen (14) of the surveyed libraries used an IM tool for the reference services. Only three (3) academic libraries had Blogs which they used to display specific information for particular departments within the university.

Findings from the qualitative data analysis (interviews) corroborated with the quantitative results. Responses revealed the most used Web 2.0 tools were Facebook, Twitter, Google+, Instant messages, Blog, LinkedIn, RSS feeds, Research gate, and Academia.edu. With respect to how the library gets followership, the results revealed that this was done through use of

word of mouth, during staff meeting, through the library web page, and during reference queries. One of the Web Librarian noted that:

—one good thing about Facebook is if you like a page all your friends get to see it as well so we try to get our content very interesting and once a friend likes it, it goes viral. Facebook is another platform for users to chat with librarians” (Web Librarian 1).

Extant literature on the use of Web 2.0 tools in academic libraries abounds (Buigues-García & Giménez-Chornet, 2012; Cassidy *et al.*, 2014; Chua & Goh, 2010; Shulman, Yep, & Tome, 2015; Yi, 2014). There is an increase in students’ interest in accessing library services via the popular Web 2.0 tools” and their expectations of what the library can offer (Cassidy *et al.*, 2014:129). This can be seen from the results shown in Table 5.18 which revealed the various Web 2.0 tools students would most likely use include; Internet Forum, Facebook, YouTube, Academia edu., Twitter, Blogs, Instant Messages Pictures, Wordpress and Message Boards. Despite the enthusiasm to make use of Web 2.0 tools, there is a need to change students’ collective mindset in terms of using Web 2.0 as a tool for knowledge creation rather than simply as information dissemination tool (Donlan, 2014). Hung and Yuen’s (2010) in a study reported a generally positive reaction among students to the knowledge- and information-sharing benefits of SNS tools for educational purposes. This affirms UTAUT’s construct of behavioural intention (where individuals are influenced to use a particular tool because their friends are using it). This implies that the use of Web 2.0 tools is enhanced by expectations (EE) of presumed benefits (PE) that can accrue from their use.

The findings further revealed some of the reasons that would deter students from using Web 2.0 tools to include privacy issues, lack of skills to use Web 2.0 tools, and lack of interest. Other issues include confidentiality, safety, harassment, pornography, fraud, and security (Mutula, 2012), anxiety or fear of new technology (Compeau & Higgins, 1995; Nichol, Hunter, Yaseen, & Prescott-Clements, 2012), lack of skills of using a technology (Totolo, 2011; Wang & Shih, 2009), the negative influence of facilitating conditions in institutions (Duyck *et al.*, 2008; Venkatesh *et al.*, 2003), and the impact of social influence in technology use (Dulle & Minishi-Majanja, 2011; Duyck *et al.*, 2008). Nevertheless, these tools were reported to facilitate information and knowledge sharing, service enhancement and promotion, interaction with students, at minimal costs (Boateng & Quan Liu, 2014; Chu & Du, 2012).

Most of the student respondents revealed that promotional materials, link through the library website, and search engine encouraged students to join a Web 2.0 application. Some of the respondents noted that through an advert on social media and word of mouth in the library (See Table 5.20) they were able to know the services offered through Web 2.0. Facilitating conditions as affirmed by the current study have been validated by Venkatesh *et al.* (2003) as a direct determinant of usage behaviour of a new technology.

6.4 Web 2.0 Tools no Longer Used

With regards to Web 2.0 tools no longer used by their institutional libraries, only 11 (11.9%) of the 108 respondents indicated some of the tools were no longer used. Results showed majority of the respondents 6 (54.5%) indicated Blogs, followed by 3 (27.3%) who indicated Academia.edu. Respondents, when asked why they no longer used the Web 2.0 tools stated various reasons such as; inadequate skilled manpower, Internet connection problems, lack of dedicated staff, lack of interest in learning Web 2.0 tools, shortage of staff, technical problem and out-datedness of the Web 2.0 tools. The Web librarian in UNIBEN however, stated lack of manpower made the library stop using Blogs and Flickr.

Despite the fact that some of the libraries discontinued the use of some Web 2.0 tools due to the limitations cited above, the study revealed that librarians were well acquainted with these tools and their benefits. It was also apparent that social networking tools were more successfully used when purposes were clearly identified prior to actual usage. However, library users (such as students) were reported to have limited involvement in the social networking platforms offered by the libraries. This has also been identified as a factor that influenced the decision of a number of respondent libraries to continue or abandon a tool (Chu & Du, 2012). Though social networking websites appear to have benefits for libraries, their use has not been pervasive, partly due to limitations associated with their maintenance (Hendrix, Chiarella, Hasman, Murphy, & Zafron, 2009).

Chu and Du (2013) found that the implementation of Web 2.0 tools by library staff was challenged by limited time and perceived inadequacy of the staff to keep pace with the development of technology.

6.5 Web 2.0 tools which the library plans to implement in the future

Findings in the current study showed Internet Forum, RSS feeds, Instant Message, LinkedIn, and Blogs are some of the Web 2.0 tools the library plans to implement in the future. Another 8.3% indicated Message board, Twitter 7.4% and iTunes 6.5%, while a few (5.6%) indicated

Wiki, MySpace, and Wordpress. The least response was (4.6%) of respondents that chose Podcast and Picture. However, most of the respondents (17.6%) noted “None” of the Web 2.0 tools were planned for implementation by their library in the future. Regarding why some web 2.0 tools were used more than others, the results from interviews revealed wide coverage, and user-friendliness among others.

Nearly half (13/27) of the respondents surveyed by Chu and Du (2013) on social networking tools for academic libraries were open to any new tool that could be useful to the library in promoting and enhancing services. Some respondents specifically mentioned tools, such as Blogs that would be adopted if the shortage of personnel was addressed. Others noted that they would be interested in using Renren.com (a Chinese equivalent of Facebook) to promote library resources, services and updates, gather feedback and communicate with students. Meebo was also identified as a chat tool that could be integrated into a library website to help answer enquiries (Chu & Du, 2013). Effort expectancy is vital towards the introduction of new technology. If librarians fail to take into consideration the factors related to ease of use then the adoption process of the new technology can be constrained (Orlikowski, 1992).

6.6 Web 2.0 tools used for marketing academic library services

Web 2.0 tools used to market academic library services in the libraries surveyed as revealed from the results (in the order of importance) are Facebook, Twitter, Instant Message, Pictures, Blogs and YouTube respectively. Others are Internet Forum, Academia edu, LinkedIn, Message board and Wiki. As can be seen in table 5.2, the use of Web 2.0 tools is more prevalent in UNIBEN than in any of the two other universities.

Numerous studies have shown that the uses of Web 2.0 tools, such as Facebook, Twitter and YouTube to market library services are increasing (Alkindi & Al-Suqri, 2013; Chu & Du, 2012; Ismail, 2010; Kumar, 2013; Park, 2010; Tedd, 2008). These studies have been motivated by the growing popularity of Web 2.0 applications in helping libraries achieve their mission of engaging with the community, improving access to its users and to promoting information services (Alkindi & Al-Suqri, 2013; Smeaton & Davis, 2014).

Hinchliffe and Leon (2011); Moulaison and Corrado (2011) assert that to keep pace with evolving information technologies, librarians are using a group of software applications including Blogs, Wikis and Podcasting; media-sharing tools such as YouTube and Flickr; and social networking services such as Twitter and Facebook to market their services and resources with mixed success. Some of the information services that are available for

marketing through Web 2.0 tools are online information searching, CD-ROM literature searching, CD-ROM databases, compilation of reading lists (help to accelerate information retrieval and dissemination process), new arrivals, interlibrary loans, information analysis (interpretation, synthesis, evaluation and repackaging of information or numerical data), bindery services, renewals, translation services, photocopying/reprographic services. Others are audio/visual services, access to online databases, power point presentation of seminars/lectures, video coverage, e-mail services, Internet services, compilation of bibliographies (based on subjects), document delivery services (print and electronic), indexing and abstracting, inter-library loan services, current awareness services, access to other library catalogues, selective dissemination of information (SDI), and referral services (Oduwale *et al.*, 2012).

The results of the qualitative analysis revealed that all the respondents affirmed the use of Web 2.0 tools by the library to market its services. They especially attested to the use of Facebook (for staff and students), Google+, Twitter, and Blog among others. The use of Web 2.0 tools for marketing library services was considered effective because there are no subscription fees except for the cost of Internet connection. Ramos and Abrigo (2012) noted that academic libraries were using Ask-a-Librarian, web forms, e-mail and Facebook to provide reference services. For example, using Web 2.0 libraries were providing users with services such as chat-based reference, virtual discussions, and interactions with other reference librarians.

Reaffirming the importance of using Web 2.0 tools to market and promote library services, the majority of the students surveyed 236 (93.3%) responded that it is “important” while 8 (3.2%) indicated it was “unimportant”. The study also revealed 213 (86.2%) respondents think libraries using Web 2.0 applications for marketing their services are advantaged compared to those that do not.

Regarding the kind of information, they would like to see on their library Web 2.0 applications, findings revealed as indicated in table 5.22 that the majority of the students 203 (79.3%) chose new books and resources, some indicated updates, reference services, others chose reviews, links to related pages, community news and the least respondents mentioned pictures” 43 (16.8%). These results attest to numerous uses of Web 2.0 to support and market library services (Alkindi & Al-Suqri, 2013; Chu & Du, 2012; Ismail, 2010; Kumar, 2013; Park, 2010; Tedd, 2008). Alkindi and Al-Suqri (2013) observed that following the increased

use of Web 2.0 applications globally libraries must seize the opportunity and use them in marketing its services more regularly to improve access and to promote information services.

Furthermore, the findings showed that student respondents when asked to state other methods, through which the library could effectively market the library services, chose post, local newspaper, word of mouth, radio, TV, posters and leaflets, publicity materials, e-mail, and the majority indicated the use of library website. The majority of the students favoured the use of the library website to market services. Similarly, Burkhardt (2009) noted that library can market its services and events by using fliers, bookmarks, announcements in calendars of events, newspaper ads, and press releases. However, the majority of the students chose the library website affirming Burkhardt's (2009) conclusion that social media is simply another form of media that libraries can use to get their message out there. Fagan (2009) offered specific suggestions for marketing online resources, including creating "earned searches" for resources within the library's online catalogue, optimizing the library's Web site for search engine indexing, creating landing pages on the library Web site for promotional materials, and placing online ads either on the library Web site or other sites for resources.

The findings on research question two supports the model underpinning the study. The results in this regard reveal that librarians show the tendency towards behavioural intention to accept and use Web 2.0 tools to market academic library services, it can also be deduced from students' responses that a good library website would encourage and generate favourable attitude toward the use of Web 2.0 tools. In addition, Web 2.0 tools offer quality information and services. Several studies confirm a positive relationship between facilitating conditions and usage behaviour, for instance the adoption of information services (McKenna, Tuunanen, & Gardner, 2013), the adoption of mobile banking (Oliveira, Faria, Thomas, & Popovic, 2014), and examining factors that affect the acceptance and use of interactive whiteboards (Tosuntas, Karadag, & Orhan, 2015), this is also affirmed by Venkatesh *et al.* (2003).

6.7 The purposes for which Web 2.0 tools are used by academic library

Results on the "purpose for which Web 2.0 tools were used by the surveyed universities" revealed that 99 (91.7%) of the respondents indicated the library used Web 2.0 tools to "promote library product and services", 68 (63%) said they used these tools to "reach a new audience of potential users". Findings further revealed 67 (62%) each indicated, "push library news and press release" and "provide quick updates to users" respectively. A total of 59

(54.6%) of the respondents affirmed “reference services online” was one of the purposes the library used Web 2.0 tools. Results also revealed that 50 (46.3%) of respondents indicated Web 2.0 tools were used to “modernise the library image and e-reputation” as well as “spread library news and service alerts”, 34 (31.5%) for training while 32 (29.5%) indicated “collaborating with colleagues in other libraries”. A few 26 (24.1%) indicated that the library used Web 2.0 tools for “image and video sharing” and the least respondents 17 (15.7%) indicated the tools were used for “Blogging”, and “social tagging and bookmarking”.

Collins and Quan-Haase (2012) stated that social media was primarily used among academic libraries in Ontario to communicate information to current and prospective users, but the rate of activity, the manner of content creation, and methods of delivery varied according to each institution. Rogers (2012) also found that the libraries used the social media tools for promoting general library services, marketing specific library programs and/or services, providing quick updates to users, and reaching a new audience of potential users. Sahu (2013) observed that some of the services provided by librarians through social media tools include: library orientation, new arrival of library resources, references services, selective dissemination of information (SDI), and customer services among others.

Boateng and Quan Liu (2014) in their survey of libraries found they were using SNS to upload photos, share links and videos, market library services, offer reference service, and share information about library resources. Social networking sites such as Facebook and Twitter were used as an alternate channel of communication as well as a social utility to form personalised connections with users. Florida State University Library, for example, provides a searchable catalogue and displays messages posted by both librarians and users on their Facebook page. Among the uses of SNS, photo sharing and providing links to library home pages were the most popular with all 100 libraries utilising SNS for such purposes while a few academic libraries (21%) offered reference services from their social networking sites (Boateng & Quan Liu, 2014).

Other purposes for which Web 2.0 tools were used include enabling knowledge generation and use; enhanced interactivity between users and librarians; facilitating seamless communication and feedback loop; providing library services to where the user community is already in need; creating an information-sharing culture; enriching the information services with multimedia experiences; creating library environments that are fun to work and use;

empowering users to contribute library content; and facilitating the users to participate in the management of the libraries by making suggestions (Mutula, 2012).

Results from students regarding services rendered by their institutional library using Web 2.0 tools, revealed most of the respondents 132 (51.6%) indicated “reference/research assistance”, followed by respondents that indicated “promote distance learning” 96 (37.5%), some 91 (35.5%) indicated the library also serves them by “publicising new acquired material and service alerts” on Web 2.0 tools. Other responses were; “get library news and events around the world” 77 (30.1%), “promote services, collection, events, and resources” 70 (27.3%), “communicate with users” 63 (24.6%), “communication among participants” 62 (24.2%), “keep up with current developments in different fields” 56 (21.9%), and “create professional connections” 53 (20.7%). The least responses were; “spread news about the events in other libraries” 48 (18.7%), “collaborate and share of work” 47 (18.3%), “share videos conferences, workshops and library events” 45 (17.6%), “upload library images” 35 (13.7%), “solicit patrons’ feedback” 22 (8.6%) and “conduct virtual conference” 15 (5.8%).

Responding to whether the use of Web 2.0 tools has achieved its purpose in the surveyed university libraries, some of the interviewed respondents affirmed that Web 2.0 tools had achieved its purpose. In UNIBEN for instance, the library Facebook page and Twitter account had many followers (both Nigerian and non-Nigerians) due to current and interesting information about activities in UNIBEN and Nigeria and has always been used as a reference by the Nigerian Library Association (NLA). Although, the respondent interviewed in UNICAL noted, “Web 2.0 tools are not yet as effective as expected in the library, another respondent in UNIPORT reported that even though the purpose has been achieved, librarians can be more interactive with users and be more visible online.

Web-based library services according to Madhusudhan and Nagabhushanam (2012) provided via the web are considered invaluable. The web allows librarians to extend their services beyond posted library hours. It improves library visibility within the library system, users become aware of what the library has to offer. The library’s use of the web to deliver highly visible databases and full-text services promotes the image of the librarians as the “Internet expert” (Madhusudhan & Nagabhushanam, 2012).

6.8 The Frequency of using Web 2.0 Tools

Using a Likert scale respondents were asked to indicate the frequency of using some of the popular Web 2.0 tools in their library, in order to determine the extent to which academic

libraries have embraced and applied these tools. Majority of the respondents 74 (77.9%); UNIPORT 22 (88.0%), UNIBEN 31 (79.4%) and UNICAL 21 (67.7%) as revealed in table 5.7, indicated they used Facebook “frequently” while 15 (15.8%); 7 (22.6%) of the respondents in UNICAL, 6 (15.4%) in UNIBEN and 2 (8.0%) in UNIPORT) responded they “occasionally used” Facebook. The Chi-Square revealed there was no difference in the use of Facebook among the three universities surveyed. Baro, Idiodi *et al.* (2013) in their study found the primary focus of the libraries using Facebook was to promote and market the library. Facebook (62.9%) and Twitter (62.9%) were also found to be the two most commonly used tools by the respondent libraries (Chu & Du, 2012) and Facebook was the most frequently used tool especially by both the youth and adults (Muneja & Abungu, 2012). Blummer and Kenton (2014) also reported in their finding on “the availability of Web 2.0 tools in community college libraries’ websites serving large student bodies” that social networking tools constituted the second most popular Web 2.0 application among community college libraries and found Facebook to be the most utilised tool.

Regarding the frequency of using Flickr, only 4 (8.9%) of the entire respondents “frequently used” the tool, majority of the respondents 40 (88.9%) indicated they rarely used and only 1 (2.2%) “occasionally used” Flickr. Figure 5.8 depicts results for individual universities while table 5.8 depicts, statistically there is no difference ($X^2 = 2.293$, $N = 45$, $df = 4$, $p = 0.682$) in the frequency of using Flickr. Baro, Idiodi *et al.* (2013) found in their studies that libraries surveyed were using Flickr and YouTube to promote the library by providing virtual tours and placing faces, pictures of the staff of the library. Libraries employed photo sharing applications such as Flickr for marketing and promotional purposes. Library announcements and events were chronicled through the use of photographs and images. However, for sites that had more than one photo sharing account, there is was often duplication of content posted to the applications (Blummer & Kenton, 2014).

Similarly, on the frequency of using YouTube, the results revealed a 32 (41.1%) of the respondents indicated “occasionally used”, and 26 (33.3%) of the respondents indicated, “frequently used” while the respondents that indicated “rarely used” were 20 (25.6%). Chi-Square test ($X^2 = 21.592$, $N = 78$, $df = 8$, $p = 0.006$) revealed significant difference in the frequency of using YouTube in the various universities surveyed. Figure 5.9 revealed the frequency of using YouTube was more in UNIPORT than UNIBEN and UNICAL. The findings revealed that although librarians in UNIBEN had the highest response rate in table 5.2, UNIPORT seemed to use the tool more frequently. Blummer and Kenton (2014) found

YouTube remained popular among the libraries they surveyed. The majority of YouTube videos centred on information literacy instruction. The respondents pointed out that some YouTube videos offered library announcements, virtual tours, and information on the library's Websites, databases, and services. In contrast, YouTube emerged as the least applied Web 2.0 tool in academic libraries in Kenya at only 10 per cent. The low usage of YouTube according to the researchers could be attributed to the bandwidth limitations most academic libraries in Kenya faced exacerbated by the fact that most users accessed the Internet using their mobile phones (Gichora & Kwanya, 2015) which had limited functionality for downloading and viewing photos.

Results on the frequency of using Instant Message revealed that 22 (22.2%); UNIBEN 22.9%, UNIPORT 35.0% and UNICAL 26.9% of the respondents —occasionally” used Instant message, 30 (37.1%); and only 29 (35.8%); UNIBEN 15 (42.9%), UNICAL 10 (38.5%) and 4 (20.0%) indicated they rarely used” it. Statistically there was no significant effect of librarians on the frequency of using Instant Messaging, ($X^2 = 8.388$, $N = 81$, $df = 8$, $p = 0.397$). Tripathi and Kumar (2010) found that academic libraries were also using IM for voice chats, advice on library services, and many were partnering with libraries in another time zone to be able to provide IM reference service 24/7.

Results on the frequency of using Blog, revealed 18 (26.5%) of the respondents indicated frequently” used and some of the respondents 33 (48.5%) indicated, occasionally used” while 27 (39.7%) of the respondents indicated rarely used”. Figure 5.11 depicts the result for the individual university, while the Chi-Square test results ($X^2 = 14.426$, $N = 68$, $df = 8$, $p = 0.071$) shows there is no significant difference in the frequency of using Blog by the universities understudied. Reflecting on the result, Blogs appeared less frequently on community college libraries' websites compared to the other Web 2.0 applications. Librarians posted a range of content on blogs including library announcements as well as institutional news and events (Blummer & Kenton, 2014). However, Tripathi and Kumar (2010), and Mahmood and Richardson (2013) found that academic libraries were using Blogs to convey general information about their library, research tips, new books purchased, provide book reviews, advertise new databases, announce server/database downtimes, changes to hours of operation and post job openings. Han and Liu (2010) found libraries used blogs to communicate library events and for staff training.

Results with respect to the frequency of using Wiki showed that majority of the respondents 38 (73.1%) responded, “rarely used”, followed by 7 (13.5%) of the respondents and very few 7 (13.5%) of the respondents stated they “frequently used” Wiki. The results on the frequency of using Wiki by the individual university are presented in figure 5.12. Table 5.12 shows that statistically, the Chi-Square results does not have a significant difference in the frequency of using Wiki in the three universities surveyed ($X^2 = 13.033$, $N = 52$, $df = 8$, $p = 0.111$). A review of the literature showed wikis as one of the lesser utilised Web 2.0 tools. Coelho (2011) noted that the reason for the low use might be because it can be easily edited by anyone and it is hard to maintain the quality and prevent vandalism of the content. Only two libraries in 2010 used Wiki as a tool to collaborate with other librarians rather than using it to provide service to patrons. A study by Baro, Idiodi *et al.* (2013) also reached the same finding. Sodr and Summey (2009) suggested some potential applications that academic libraries could use wikis for creating a knowledge base of frequently asked questions by the reference librarians. Other users were using wiki for staff training, and for creating policy and procedural manuals.

RSS feed was also one of the Web 2.0 tools the respondents were asked to indicate their frequency of use. The highest response was recorded in the “rarely used” category at 16 (84.2%), 3 (75.0%), 15 (83.4%) for UNIBEN, UNIPORT and UNICAL respectively. Responses on “occasionally used” were UNIBEN 1 (5.3%), UNIPORT 1 (25.0%), and UNICAL 2 (11.1%). The overall response for all the university survey were “rarely used” 34 (82.9%), the next category was 4 (9.8%) that “occasionally used” RSS. “Frequently used” had the least response at 3 (7.3%). The results are depicted in table 5.13 and there was no significant difference in the Chi-Square result ($X^2 = 3.442$, $N = 41$, $df = 8$, $p = 0.904$) in figure 5.13 within the three universities surveyed on the frequency of using RSS feeds. The finding contradicts Coelho’s (2011) study on Portugal’s fifteen public universities’ libraries comparing the implementation of Web 2.0 tools in 2008, 2009 and 2010 in which the results showed that 59% of the libraries were not using any of these tools in 2008. By 2009, only 11% were not using any of the tools and by 2010 all of the libraries were using at least one Web 2.0 tool.

The tools most popular among the libraries were RSS in 2008 with the little usage of the other tools. By 2010, RSS was still the leading Web 2.0 tool in usage by the libraries. Han and Liu (2010) noted that Chinese libraries used RSS to send out notifications of information of interest to their patrons such as library news and events. They also used it in relation to

library services to notify patrons when items were due, overdue or ready to pick up. Lastly, they used it to provide syndicated subject-related information that patrons could access easily and in a timely manner. Gichora and Kwanya (2015) found most of the academic libraries in Kenya used RSS to announce new books in specific fields or subjects, new e-journals, and library news and events. RSS was also used to announce the availability of new research and learning opportunities, for compiling customised alerts, promoting events organised for library users, and providing help for catalogue search.

Majority of the respondents 35 (87.5%); UNIBEN 18 (90.0%), UNIPORT 3 (75.0%) and UNICAL 14 (87.6%) noted “rarely used” when asked to indicate how frequent they used Podcast, the least response was 2 (5.0%); UNICAL 1 (6.3%), UNIBEN 1 (5.0%) and UNIPORT no response that indicated “frequently used” as presented in figure 5.14 is the result of the frequency of using Podcast. With respect to Chi-Square test result on the frequency of using Podcast in the surveyed universities showed that there was no significant effect ($X^2 = 4.673$, $N = 40$, $df = 8$, $p = 0.792$). The finding concurs with Tripathi and Kumar (2010) who found that while there was low utilisation of podcast in academic libraries. Nevertheless, podcasts were being used to create instructional tutorials to guide patrons to resources, library tours, improving research skills, highlighting and recording events, and promoting the library. Sodr and Summey (2009) also found academic libraries used these tools to promote new books and resources, news about the library, and as a supplemental mode on their Blogs.

Finding on the frequency of using Social Bookmarking revealed only 14 (25.0%) of the respondents; 6 (24%) in UNIBEN, UNIPORT 6 (60.0%), and UNICAL 2 (9.6%) responded “frequently used”, 6 (10.7%) of the respondents indicated they “occasionally used” it and majority of the respondents 36 (64.3%) consisting of (UNIBEN, UNIPORT, and UNICAL at 15 (60.0%), 4 (40.0%) and 17 (80.9%) respectively) stated they do “rarely use” Social Bookmarking. Figure 5.15 presents the result for the frequency of using Social Bookmarking according to individual university. Results obtained from Chi-Square test shows that there is no significant difference ($X^2 = 13.471$, $N = 56$, $df = 8$, $p = 0.097$) in the frequency of using of Social Bookmarking in the universities. Mahmood and Richardson (2013) conducted a survey of 100 ACRL (The Association of College and Research Libraries) – a professional association of academic librarians and individuals dedicated to serving the needs of the higher education community, in 2010 in which they had a 67% response rate. Their study discovered that over 80% of the libraries were using RSS, blogs, social networking, wikis,

and IM tools. Tarulli and Spiteri (2012) studied a sample of 50 catalogue records on how Bibliocommons social catalogue features have been used in the Halifax and Edmonton public libraries in Canada, and found that the most popular socially enhanced features implemented by library catalogue users were abilities to create bibliography lists, add to bibliographies created by others (29%), and add ratings (14.07%), with lesser usage observed for tagging (1.12%) and for the ability to add comments (1.09%). These new ways of involving users in building the library's collections and tools, and indirectly helping to tell the library's story, suggest a transformation of library practices is underway toward a more participatory and user-created library (Mon, 2015).

The result on the frequency of using Twitter revealed, 11 (32.3%) of the respondents from UNIBEN, 8 (42.2%) and 10 (43.4%) indicated, "rarely used". Another 10 (29.4%), 2 (10.5%), 6 (26.1%) of the respondents from UNIBEN, UNIPORT and UNICAL respectively as shown in figure 5.16 said that they "occasionally used". The result of the chi-square statistics show there is no significant difference ($X^2 = 5.201$, $N = 76$, $df = 8$, $p = 0.736$) among the three universities on the use of Twitter to market academic library. Bosque, Leif and Skarl (2012:200) posited that Twitter has "many features that make it a technology suitable for use by libraries". First, it is free so it easily fits within any library's budget. It doesn't require a significant number of staff time to create or maintain. Many patrons already use it making it a great place for the library to connect with them. Bosque, Leif and Skarl (2012) observed that just like with Blogs, libraries were using Twitter to inform patrons about library events, instructional workshops, new resources, responding to patrons' tweets.

Arif and Mahmood's (2012) study revealed that the frequency of use of Web 2.0 by Pakistani librarians was generally low and that they were less inclined toward adoption of Web 2.0 technologies. Jennings (2012) reiterates the point that Twitter is a more informal social communication tool and for the fact that people are so comfortable with tweeting it can help reduce the intimidation of people.

6.9 Ways of Optimising the Use of Web 2.0 to Market Library Services

Regarding the open-ended question on the ways to optimise the use of Web 2.0 tools to market library services, 47 respondents responded to this question. Of these respondents, 35 (74.5%) stated providing adequate training and workshop, 13 (27.6%) stabilising power supply and/or provision of alternative power supply, 12 (25.3%) providing adequate funding for the library, 8 (17%) provision of facilities and enabling environment to use Web 2.0 tools,

7 (14.9%) encouraging both staff and users to utilise Web 2.0 tools, 7 (14.9%) provide orientation and educate users on how to use Web 2.0 tools, 7 (14.9%) improve Internet access/ increase Internet bandwidth, 4 (8.5%) create awareness by marketing Web 2.0 tools, 3 (6.4%) employ skilled personnel to manage and train staff and students and 2 (4.3%) acquaint policy makers of the benefits of using Web 2.0 tools 2 (4.3%).

Furthermore, results indicated, the need to ensure there is the availability of the necessary facilities and head librarians should engage management on the use of Web 2.0 tools to boost the library image and performance, Web 2.0 tools used for marketing library services should be well advertised in this era of Web-based librarianship. Respondents also suggested it is important for the library to implement the Web 2.0 tools that students are interested in using. For the library to remain relevant in contributing to knowledge and information dissemination there has to be a significant increase in effective marketing of library services which will result in increasing patronage.

The respondents also stated that the majority of librarians lacked the interest to use Web 2.0 tools. Besides, they pointed out that there was no clear library policy on the use of Web 2.0 tools; that most librarians cannot use these tools adequately, therefore, training is necessary. Library staff according to the respondents should be capacitated through constant training to effectively apply Web 2.0 to market library services. A respondent suggested useful Web 2.0 tools could be downloaded and placed in an offline database to be accessible to users even when there no connectivity.

Results from the qualitative data revealed lack of policy on the use of Web 2.0 tools. The need for such policy is important to guide matters regarding online security, privacy, and personal confidentiality. The respondents advocated for more staff to help integrate Web 2.0 tools in library services. The Web 2.0 needs of students should also be determined to offer an effective and efficient service. The respondents also expressed the need for an instant messaging tool on the web page, improving the accessibility of Web 2.0 tools, creating awareness, training staff on how to use Web 2.0 tools, changing the library staff mind-set about the use of Web 2.0 tools as well as their approach to users and ensuring library staff have the basic knowledge of the tools. The respondents also expressed the need for a specific budget.

Garoufallou, *et al.*'s (2013) findings in a related study revealed that Greek librarians acknowledged the need to adopt marketing techniques that are incorporated into their work.

With respect to students' response on how to optimise Web 2.0 tools, the views of 120 (46.8%) of the respondents revealed the need for; adequate staff training that would enable them train students on how to use the tools 40 (33.3%), constant orientation of library users 27 (22.5%), creating awareness on the Web 2.0 tools 23 (19.2%), encouraging students to use the Web 2.0 tools 21 (17.5%), providing facilities and creating an enabling environment 16 (13.3%). Others also proposed improving and upgrading Internet access 14 (11.7%), ensuring there is adequate funding for libraries 13 (10.8%), ensuring the Web 2.0 tools are easily accessible (via library website) 12 (10.0%), marketing library services with Web 2.0 tools 10 (8.3%), providing reliable and stable power 8 (6.7%), employing skilled staff 8 (6.7%), updating the Web 2.0 tools 7 (5.8%), as well as making the use of Web 2.0 tools as part of General Studies (GS) curriculum 6 (5.0%) and policy framework 5 (4.2%).

Besides, 17(6.6%) of the respondents proposed re-orienting the library staff as well as users on the knowledge and the use of web 2.0 tools. The students also proffered suggestions such as; creating Internet access for each faculty, increasing the Internet bandwidth and time allocated to student to use it, training of both staff and students, using Web 2.0 tools as a medium for providing Current Awareness Service (CAS) to its clients, and also using it for updates on new management laws such as closing hours, opening hours and more.

6.10 Summary

This chapter presented a discussion of findings based on the research questions and was supported by empirical literature. Findings revealed the constructs of UTAUT such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) are moderated by age, gender, experience and voluntariness of use in determining adoption and implementation of Web 2.0 tools. These variables are therefore significant to the use of Web 2.0 tools by academic libraries in marketing their services. The discussion revealed that demographic variables such as gender and age, level of education, duration working in the current job, and positions held, did not have any significant effect on the use of Web 2.0 tool unlike Yi's (2014) study where the dependent variable were significant determinants of the effectiveness of using Web 2.0 tools to market academic library services (Yi, 2014).

Findings revealed Web 2.0 tools are used by both librarians and students, though the degree of use varies in the institutions surveyed. For instance, 97.6% of the respondents from UNIBEN reported that they used Facebook, compared to 100% in UNIPORT and 92.5% in

UNICAL. Similarly, for the use of Twitter, UNIBEN indicated 88.1% while UNIPORT 73.1% compared to 50% from the UNICAL. Instant messaging also received the highest response in UNIBEN 61.9%, UNIPORT 46.2%, and UNICAL 45% respectively. The respondents from UNIBEN 23 (54.8%) for Internet Forum were also higher than that of UNIPORT and UNICAL at 42.3% and 42.5% respectively. Buigues-Garcia and Gimenez-Chornet (2012) indicated, the most implemented Web 2.0 tools in libraries are Facebook or Twitter, RSS, Blogs and more.

The results showed academic libraries in South-south Nigeria were using Facebook, Twitter, Instant Messaging, Pictures, Blogs and YouTube, Internet Forum, Academia edu, LinkedIn, Message Board and Wiki to market their services. Findings revealed librarians in South-South Nigeria strongly believe the use of Web 2.0 tools to market their services and products is a welcome change since the world has become a digital and a global village due to the impact of Internet.

Finally, the study revealed that there is no policy on the use of Web 2.0 tools by academic libraries in South-South Nigeria. Results further revealed that facilitating conditions were strong determinants of performance expectancy and effort expectancy. This study results are consistent with other studies which also found that social influence had positive influence on behavioural intention (Venkatesh *et al.*, 2003; Yu, 2012, Thomas *et al.* 2013, Escobar-Rodriguez and Carvajal-Truzillo 2014)(Escobar-Rodriguez & Carvajal-Truzillo, 2014; Thomas *et al.*, 2013b; Venkatesh *et al.*, 2003; Yu, 2012). With the increase in the potential and reported actual use of Web 2.0 for dynamic and effective service delivery by libraries increase, it is not surprising to note that librarians and students in South-South expect Web 2.0 tools to enhance marketing their use of library. Hence, performance expectancy was found to have an affirmative influence towards behavioural intention, this affirms the findings of Venkatesh *et al.* (2003) Escobar-Rodriguez and Carvajal-Truzillo (2014) and Tosuntas *et al.* (2015). Regarding effort expectancy and behavioural intention, the use of Web 2.0 tools to market library services as discovered from the findings require less effort as the users are already aware of and use most of the tools which is consistent with other findings (Casey & Wilson-Evered, 2012; Escobar-Rodriguez & Carvajal-Truzillo, 2014; Tosuntas *et al.*, 2015; Venkatesh *et al.*, 2003).

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter presents the summary of the findings, conclusion and recommendations of the study as well as the contributions of the study to policy, practice, theory and suggestions for future research. The aim of the study was to determine the effectiveness of using Web 2.0 tools to market academic library services in selected universities in South-South Nigeria. The study addressed the following research questions;

1. To what extent do academic libraries in South-South Nigeria use Web 2.0 tools to market their services?
2. What are the Web 2.0 tools academic libraries in South-South Nigeria use to market their services?
3. What are the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services?
4. What policies do academic libraries in South-South Nigeria have policies to guide the implementation of Web 2.0 tools for effective marketing of their services?

The post-positivist paradigm was adopted for the study, and the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, *et al.* (2003) was used to underpin the study. Both the quantitative and qualitative approaches were employed with survey design. The population of the study comprised of both staff and students from three universities in South-South Nigeria. Data was collected through a self-administered survey questionnaire and interviews. Quantitative data was analysed using SPSS to generate descriptive statistics (chi-square, cross tabulations, percentages/frequency tables, and charts to identify tendencies, compare similarities and contrasts), while qualitative data was transcribed and analysed thematically. Subsequent sections of this chapter present the overall summary of findings, conclusion, recommendations, contribution of the study and suggestions for further research.

7.2 Summary of Chapters in Thesis

Chapter one presented the introduction, background to the research problem, research problem, aim and objectives, and research questions. The chapter also presented significance of the study, scope and limitations of the study and the structure and organisation of the thesis.

Chapter two discussed the theoretical framework focussing on technology acceptance theories and models comprising TRA, TPB, TAM, C-TAM and TPB, DOI, MM, MPCU, SCT and UTAUT. The UTAUT being the most recent of the technology adoption theories with robust ability to explain 70% of the variance in technology use was chosen to underpin the study.

Chapter three presented a review of extant literature from both the global and African perspective. The views of researchers on the adoption and implementation of Web 2.0 was presented and an in-depth explanation of the various Web 2.0 tools used in academic libraries for marketing library products and services provided as were the benefits of using Web 2.0 tools to market academic library services, the effectiveness of using Web 2.0 tools to market academic library services, challenges and limitations of using Web 2.0 tools to market academic library services (such as lack of skills and poor infrastructure, lack of standardisation and policy, lack of institutional support, and information overload) and ways of optimising Web 2.0 to market academic library services. The literature suggests academic libraries were increasingly adopting and implementing Web 2.0 tools for various purposes including marketing and promoting library services. The literature reviewed revealed a wide range of benefits of using Web 2.0 tools to market library product and services; services rendered by academic libraries through Web 2.0 tools such as library tours, library updates and news, and link to library catalogue among others.

Chapter four presented the research methodology and discussed the research paradigms, research approaches, research design, the population of the study, sampling techniques, data collection techniques, data analysis, reliability and validity and ethical considerations of the study. Post-positivist paradigm was the underpinning philosophy and used the mixed method research approach combining the quantitative and qualitative research techniques. A survey design was used in order to generalise the results to the whole population. Self-administered survey questionnaires, structured interviews and content analysis of documentary sources

such as websites of the surveyed universities and review of literature were the three methods used for data collection. Three universities namely; UNIBEN, UNIPORT, and UNICAL were used as the study sites. Simple random sampling was used in the selection of library staff, third and fourth level students that questionnaires were administered, while the structured interview was administered to two purposively selected library staff. The sample size for library staff and students was three hundred and eighty-four (384). The questionnaires were self-administered to the librarians at the library, and students in the third and fourth year of study during the lectures. Pre-testing of the questionnaire was conducted at Delta State University, Abraka. The results of the pilot study showed that students in their third and fourth year of study had a better understanding of the content of the questionnaire and gave adequate responses. Data collected was coded and entered into SPSS software for analysis and graphical presentation. The study complied with the University of KwaZulu-Natal ethical protocol in addition to obtaining gatekeepers permissions to carry out the study.

Chapter five presented data analysis and presentation of findings. The data gathered from both library staff and students were described and presented in charts and tables. The result of the study revealed that the majority of the respondents surveyed in the staff category were female and in the age range of 41-45 years. However, for student respondents, the majority were male in the age range of 21-25 years. Findings showed various Web 2.0 tools were used in the institutional library for marketing library services. Results further revealed that Web 2.0 tools were used to promote library product and services, reach a new audience of potential users, push library news, press release, provide quick updates to users, and provide reference services online. The results also showed that Web 2.0 tools were used to modernise the library image and e-reputation, spread library news and service alerts, for training, for collaboration, for Blogging, social tagging and bookmarking. Despite these uses, there were no policies to guide the implementation of Web 2.0 tools in the marketing of library services.

Chapter six provided a discussion of the findings based on the literature reviewed and theories underpinning the study. The findings revealed that the universities surveyed were well acquainted with and use Web 2.0 tools to market their services. Findings further revealed there were no policies to guide the adoption and implementation of Web 2.0 tools. The findings revealed the need to provide more funding for the library, provide adequate facilities and an enabling environment, create awareness, train library staff and students,

provide reliable and stable power, employ skilled staff, and improve Internet connectivity as well as infusing Web 2.0 in the curriculum in order to enhance their use.

Finally, chapter seven provided, summary of the findings, conclusion and recommendations. In addition, the chapter presented contributions of the study to policy, practice, and theory. The chapter, in addition, provided suggestion for areas of future research.

7.3 Summary of Findings

This section presents a summary of research findings. The findings revealed that demographic variables such as gender and age, the level of education, job duration, and positions held, were significant determinants of the effectiveness of using Web 2.0 tools to market academic library services.

The first research question sought to determine the extent to which academic libraries in South-South Nigeria used Web 2.0 tools to market their services. Findings showed that both librarians and students of the surveyed institutions in South-South Nigeria were users of Web 2.0 tools. The findings also revealed the most used tools were Facebook, Twitter, Instant Message, and Internet Forum. The degree of use in the surveyed institutions varied, UNIBEN seemed to use Web 2.0 tools more than UNIPORT and UNICAL.

The second research question sought to ascertain the extent to which academic libraries in South-South Nigeria embraced and applied Web 2.0 tools to market library services. The results revealed that academic libraries used Facebook 101 (93.5%), Twitter 52 (48.1%), Instant Message 41 (37.9%), Pictures 20 (18.5%), Blogs 22 (20.4%), and YouTube 25 (23.1%) respectively to market their library services. Other Web 2.0 tools used to market their library services were; Internet Forum 27 (25.0%), Academia edu 24 (22.2%), LinkedIn 17 (15.7%), Message Board 8 (7.4%) and Wiki 4 (3.7%). The findings also revealed that the use of Web 2.0 tools was used more in UNIBEN than in any of the two other universities. Furthermore, findings revealed the majority 122 (47.6%) of the students felt the library could effectively market the library services through, "library website"; "e-mail" 112 (43.7%), "publicity material" 96 (37.5%) and "posters and leaflets" 90 (37.1%), "TV" 71 (27.7%), "radio" 52 (20.3%), "word of mouth" 43 (16.8%), "local newspaper" 42 (16.4%) and "by post" 36(14.1%).

With regards to purpose for which Web 2.0 tools were used showed 99 (91.7%) of the respondents indicated they were used to ~~promote~~ library services”, 68 (63%) ~~reach~~ a new audience of potential users”, 67 (62%) each indicated they were used to ~~push~~ library news and press release” and ~~provide~~ quick updates to users” respectively, 59 (54.6%) of the respondents affirmed ~~reference~~ services online”, 50 (46.3%) indicated to ~~modernise~~ the library image and e-reputation, as well as spread library news and service alerts”, 34 (31.5%) for training while 32 (29.5%) indicated ~~collaborating~~ with colleagues in other libraries”. A few 26 (24.1%) indicated that the library used Web 2.0 tools for ~~image~~ and video sharing” and the least respondents 17 (15.7%) chose ~~Blogg~~ing”, ~~social~~ tagging and bookmarking”.

From the students perspective, 132 (51.6%) indicated library used Web 2.0 for providing ~~reference/research~~ assistance”, 96 (37.5%) ~~promoting~~ distance learning”, 91 (35.5%) ~~publicising~~ new acquired material and service alerts”, ~~getting~~ library news and events around the world” 77 (30.1%), ~~promoting~~ services, library collection, events, and resources” 70 (27.3%), ~~communicating~~ with users” 63 (24.6%), ~~communication~~ among participants” 62 (24.2%), ~~keeping~~ abreast with current developments in different fields” 56 (21.9%), ~~creating~~ professional connections” 53 (20.7%), ~~spreading~~ news about the events in other libraries” 48 (18.7%), ~~collaborating~~ and sharing work” 47 (18.3%), ~~sharing~~ videos conferences, workshops and library events” 45 (17.6%), ~~uploading~~ library images” 35 (13.7%), ~~soliciting~~ patrons’ feedback” 22(8.6%) and ~~conducting~~ virtual conference” 15 (5.8%).

The third research question examined the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services and products. The results on the frequency of use, revealed the majority of the respondents 74 (77.9%) used Facebook frequently. Regarding the frequency of using Flickr, the majority of the respondents 40 (88.9%) ~~rarely~~ used”. Similarly, result on the frequency of using YouTube, revealed 32 (41.1%) of the respondents ~~occasionally~~ used”, and 26 (33.3%) of the respondent indicated ~~frequently~~ used” while result on the frequency of using Instant Message showed 40 (49.4%) of the respondents ~~occasionally~~ used” Instant message, 30 (36.5%) ~~frequently~~ used”. With regard to frequency of using Blog, 18 (26.5%) of the respondents indicated ~~frequently~~ used and 33 (48.5%) indicated, ~~occasionally~~ used” while 27 (39.7%) of the respondents indicated ~~rarely~~ used”.

Results on the frequency of using Wiki showed that 31 (59.6%) of the respondents “rarely used”, 14 (27.0%) “occasionally used” and only 7 (13.4%) of the respondents “frequently used” Wiki. Similarly, results for RSS feed revealed 28 (68.3%) indicated “rarely used”. For podcast revealed that 26 (65.0%) of the respondents responded, “rarely used”. Findings on the frequency of using Social Bookmarking as a tool revealed only 14 (25.0%) of the respondents responded, “frequently used”, while results on the frequency of using Twitter revealed 14 (18.4%) of the respondents “occasionally used”. In addition, 33 (43.4%) of the respondents implied that they “occasionally used” Twitter while a lesser percentage of 29 (38.2%) indicated, “frequently used”.

Results revealed that librarians desired to use Web 2.0 tools that students were interested in using, and librarians were anxious to learn effective and modern ways of marketing library services. Findings also indicated that due to the positive attitudes and perceptions of both librarians and students, there was a behavioural intention to use Web 2.0 tools. The respondents were of the view that the use of Web 2.0 tools in marketing library services would enhance the use and image of the library. The results showed that certain Web 2.0 tools such as Blogs, Academia.edu, YouTube, Instant Message, and iTunes were some of the Web 2.0 tools no longer used because of inadequate skilled manpower, poor Internet connection, lack of dedicated staff, and lack of interest in learning Web 2.0 tools. The respondents were, however, keen to implement certain Web 2.0 tools such as Internet Forum, RSS feeds, Message board, Twitter, Wiki, MySpace, Wordpress, Podcast and Picture. The interview results revealed that tools such as Facebook, Twitter, Instant Message, and Internet Forum were used because of their wide coverage, and user friendliness.

The fourth research question sought to identify the policies available to guide the implementation of Web 2.0 tools for effective marketing of their services and products. Results revealed there were no policies guiding the implementation of Web 2.0 tools in the surveyed universities. The finding of the study, however, revealed that a clearly defined policy on the implementation of Web 2.0 tools would improve and act as a positive influence in marketing academic libraries.

Finally, regarding respondents’ perception on the ways to optimise use of Web 2.0 tools to market library services, 35 (74.5%) stated the need for adequate training, 13 (27.6%) mentioned stable power supply and/or alternative power supply, 12 (25.3%) said management should provide adequate funding for the library, 8 (17%) needed provision of

facilities and enabling environment to use Web 2.0 tools, 7 (14.9%) said encouraging both staff and users to utilise Web 2.0 tools, 7 (14.9%) mentioned orientation and education of users on how to use Web 2.0 tools, 7 (14.9%) wanted improved Internet access and increased Internet bandwidth, 4 (8.5%) mentioned creation of awareness about role of Web 2.0 tools in marketing library services, 3 (6.4%) said skilled personnel to manage and train staff and students was a priority and 2 (4.3%) wanted to create awareness of policy makers on the benefits of using Web 2.0 tools 2 (4.3%).

7.4 Conclusion

From the results, it can be concluded that librarians and their users in the surveyed universities in South-South Nigeria were using web 2.0 tools. Although the findings revealed the degree of use varied in the institutions surveyed, the institutional libraries were using same Web 2.0 tools. The most used tools according to findings were Facebook, Twitter, Instant Message, Internet Forum, YouTube, Academia edu, LinkedIn, Blogs, Pictures, RSS Feeds, Wordpress, Wikis, and Message Board. The results seem consistent with similar studies around the world (Arif & Mahmood, 2012; Buigues-García & Giménez-Chornet, 2012; Gichora & Kwanya, 2015; Muneja & Abungu, 2012). The results also seemed to suggest that where Web 2.0 tools were not being used this was attributed to among other reasons inadequate skilled manpower, Internet connection problems, lack of dedicated staff, lack of interest in learning Web 2.0 tools, and more.

The results seemed to suggest that academic libraries in South-South Nigeria were using Web 2.0 tools to promote library product and services, reach a new audience of potential users, push library news and press release, provide quick updates to users, provide reference services online, modernising the library image and e-reputation, spreading library news and service alerts, and collaborating with colleagues in other libraries. The results revealed the need to further integrate and incorporate Web 2.0 tools into the library and in the students' teaching/learning/research purposes.

The findings on the attitude and perception of librarians in South-South Nigeria towards the use of Web 2.0 tools to market their services and products seem to suggest positive inclination towards the implementation and use of Web 2.0 tools for marketing academic library services. The findings seemed also to suggest that Web 2.0 tools had enhanced the effectiveness of the services rendered by the institutional libraries in South-South Nigeria notwithstanding the lack of relevant policies, constraints imposed by power supply, skills

shortage, and internet connectivity infrastructure problems among others. The study by Gichora and Kwanya (2015) in Kenya also found the use of web 2.0 tools in academic libraries had a positive impact on the effectiveness and efficiency of services they provided despite myriad challenges they faced. Therefore, to optimise the use of Web 2.0 in the marketing of library services it is imperative to provide institutional policies, relevant infrastructure, create awareness and train staff.

The lack of policies to guide the use of Web 2.0 in the academic libraries studied may suggest lack of commitment on the part of the university management to the implementation of state-of-the-art technological innovation perhaps because of inadequate resources or lack of awareness of the benefits that would accrue from using these tools. Lwoga (2012); Makori (2012b); Brown, Thomas, van der Merwe and van Dyk (2007) underline the importance of policies in guiding the implementation of technological solutions in the universities. Policies are needed to help gauge the effectiveness of a particular service (Massis, 2014).

7.5 Recommendations

Based on the findings of the study, the following recommendations are made:

1. From the findings, it was clear providing facilities and an enabling Web 2.0 environment will lead to increased accessibility and promote utilisation of the tools by both the library staff and students at the surveyed institutions. The management of the surveyed institution should, therefore, provide adequate funding for the infrastructures that are needed for the effective implementation of Web 2.0 tools. Management should consider partnering with stakeholders such as the National University Commission (NUC), the governments (federal/state ministries of education), private individuals/alumni, multinational organisations and international organisations/agencies towards the provision of an enabling environment that would optimise use of Web 2.0 tools in academic libraries investigated and beyond.
2. The study recommends training/re-training of staff on the use of Web 2.0 tools in the surveyed institutions in South-South Nigerian. The library staff should also be encouraged and supported by the management to attend both local and international seminars, workshops or conferences that will expose and acquaint them with the best practices on adoption, implementation, effective and efficient utilisation of Web 2.0 tools for marketing their services and products.

3. The academic libraries in the surveyed institutions should engage in creating awareness about the benefits of using Web 2.0 tools in the marketing of library services in academic libraries. The library should also encourage students to use the Web 2.0 tools by improving and upgrading Internet connectivity and ensuring the Web 2.0 tools are accessible through the library website. The libraries should also identify the Web 2.0 tools their users would most likely use and reach out to them through these tools.
4. The results of the study revealed both library staff and students see the use of Web 2.0 tools in marketing academic library services as very important since the world has become digital global village due to the impact of the Internet. Therefore, the library should constantly maintain and update its Web 2.0 tools, ensure the Web 2.0 platform is designed in a way that draws users' attention. The theoretical framework underpinning the study revealed that facilitating conditions and social influence boosts and encourage performance and effort expectancy of both the library staff and students. It showed when Web 2.0 tools are made available and are easily accessible, it will encourage the library staff and students to adopt and use the applications.
5. The development of policies should be prioritised to facilitate and promote the implementation, access and the use of Web 2.0 tools by both the library staff and students in universities in South-South Nigeria. The policy should guide the development of technological infrastructure development, budgetary allocations, training, and awareness creation.
6. Results presented in section 5.15 provide students' testimony on how the use of Web 2.0 tools has enhanced their study and research and suggest the use of Web 2.0 tools should be part of the curriculum. The study, therefore, recommends that Web 2.0 tools should be infused in the General studies (GS) curriculum, a compulsory course at the entry level into the university that exposes and teaches liberal education. This will help create awareness and give students the necessary skills for proper and effective use of the Web 2.0 applications for learning purposes.
7. The library home page should be designed as a navigational hub that can help users to easily access information through any Web 2.0 tools such as Facebook, Twitter, Blogs, Youtube among others. This can be achieved by ensuring that basic information can be provided by linking the library website - library instruction or guides, staff directory, interlibrary loan, search of OPAC, about link, use of university

template, sidebar navigation within libraries, and contact or ask a librarian to the university home page.

7.6 Originality and Contributions of the Study

This study explored the effectiveness of using Web 2.0 tools to market academic library services with focus on the South-South region of Nigeria. Although, several empirical studies have been conducted on adoption, implementation and use of Web 2.0 tools in Nigeria (Baro, *et al.* 2013; Ezeani and Igwesi, 2012; Anyaoku, Orakpor and Ezejiofor, 2012; Olajide and Oyeniran, 2014), the current study distinctively explored the effectiveness of using various Web 2.0 tools to market academic libraries in South-South Nigeria.

A review of the literature demonstrates the potentials and benefits of applying Web 2.0 tools in academic libraries, such as marketing, promoting library services and collaborating with students. The findings from the study on librarians and students contribute to the literature that demonstrates how academic libraries from a developing country context such as Nigeria use different Web 2.0 tools to enhance the reach of their services. This exploratory study in practice provided an understanding by librarians in Nigeria of the various Web 2.0 tools used by academic libraries around the world in marketing library services to clients.

The study established the importance of policies, skills, infrastructure development, management support, and awareness in the implementation of Web 2.0 tools in a developing country context. The study contributes to sensitising policy makers on the need to develop enabling policies in order to leverage opportunities created by new technologies for teaching and learning purposes.

7.7 Limitations and Suggestions for Further Research

The study was limited to only three academic libraries in South-South Nigeria. This was informed by the preliminary study that showed only these institutions had the presence of Web 2.0 tools in their library website. Future research could focus on all the universities in South-South Nigeria. The current study also focused on using Web 2.0 tools to market academic library services, and further studies can extend the study to examine the use of Web 2.0 in other aspects of the library such as information literacy, clients' service among others. Finally, the study was limited to librarians and only third and fourth level students, while future study can include students at all levels of study.

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APPENDICES

Appendix 1: Letter of Informed Consent



30 September 2014

Dear Respondent,

Informed Consent Letter

Invitation to Participate in a Survey

I am Faith Ashinedu Okite-Amughoro, currently a PhD candidate in Information Studies at the University of KwaZulu-Natal, Pietermaritzburg Campus, South Africa. I am conducting this study as part of the requirements for the Doctoral degree. The purpose of this study is to explore the effectiveness of using Web 2.0 tools to market academic library services in some selected universities in South-South Nigeria. The findings of the study will assist your university library in developing effective strategies in marketing the library services and resources to the users.

The questions should take no longer than 10-15 minutes to complete. The questionnaire will not require any personal identification and information solicited will only be used for the purpose of the research. I will be very grateful if you would endeavour to answer them.

However, if there are any questions or comment, you can contact the researcher on: nedufait@gmail.com. Alternatively, you may contact the supervisor Prof. Stephen Mutula at: mutulas@ukzn.ac.za.

Thank you again for participating in this survey.

Regards,

Faith Okite-Amughoro

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HSSREC Research Office: Ms P Ximba
Institution: University of KwaZulu-Natal
Telephone number: +27 (0) 31 260 3587
Email address: ximbap@ukzn.ac.za

I, hereby consent to participate in the study as outlined in the document about the study/ as explained to me by the researcher.

I acknowledge that I have been informed of the purpose of this survey. I am aware that participation in the study is voluntary and I may refuse to participate or withdraw from the study at any stage and for any reason without any form of disadvantage. I acknowledge that I understand the contents of this form and freely consented to participating in the study.

Participant

Signed..... Date:

Researcher

Signed Date:.....

Appendix 2: Questionnaire for Librarians

Section One - Your Details

1. Please indicate your library affiliation.

* Please choose **only one** of the following:

- UNIBEN Library
- UNIPORT Library
- UNICAL Library

2. What is your gender?

- Male
- Female

3. What is your age category? (Please indicate only one).

- 20-25
- 26-30
- 31-35
- 36-40
- 41-45
- 46- 50
- 51 and above

4. What is your highest level of education?

- Diploma certificate
- Bachelor's degree
- Master's degree
- Doctoral degree

5. How long have you been on your present job?

- 1-5 years
- 6-10 years
- 11-15 years
- 16- 20 years
- 21-25 years
- 26-30 years
- Others

6. What position do you hold in the library?

- University Librarian
- Deputy University Librarian
- Principal Librarian
- Senior Librarian
- Librarian I
- Librarian II
- Assistant Librarian
- Library/ IT Officer

Section Two - Web 2.0

Introductory Note: 'Web 2.0' is generally referred to as the second generation of the World Wide Web. Many refer to it as Library 2.0 when used to describe transitions in library service models in the face of technological developments, changing user needs while others may refer to it as social networking/media. These questions however, refer specifically to the application of

Web 2.0 tools such as blogs, wikis, social networks and its relation to marketing of library services.

7. Which of the following Web 2.0 tools are used in your library? Please **Tick (√) as appropriate (You may choose all that are applicable).**

- | | | |
|---|-----------------------------------|---|
| <input type="radio"/> Facebook | <input type="radio"/> Wordpress | <input type="radio"/> Dig |
| <input type="radio"/> Flickr | <input type="radio"/> Pictures | <input type="radio"/> Propeller |
| <input type="radio"/> Youtube | <input type="radio"/> MySpace | <input type="radio"/> iTunes |
| <input type="radio"/> Instant Messaging | <input type="radio"/> LinkedIn | <input type="radio"/> Pandora |
| <input type="radio"/> Blogs | <input type="radio"/> Vimeo | <input type="radio"/> Rhapsody |
| <input type="radio"/> Wikis | <input type="radio"/> Hulu | <input type="radio"/> Sound life |
| <input type="radio"/> RSS | <input type="radio"/> Photobucket | <input type="radio"/> Del.lcio.us |
| <input type="radio"/> Podcasts | <input type="radio"/> Digg | <input type="radio"/> Simpy |
| <input type="radio"/> Twitter | <input type="radio"/> StumbleUpon | <input type="radio"/> Blinklist |
| <input type="radio"/> Internet forums | <input type="radio"/> Delicious | <input type="radio"/> Academia.edu |
| <input type="radio"/> Message boards | <input type="radio"/> Scribd | <input type="radio"/> Others (Please specify) |

8. Which of these Web 2.0 tools did your library previously use, but no longer uses? Please choose all that apply:

- | | | |
|---|-----------------------------------|---|
| <input type="radio"/> Facebook | <input type="radio"/> Pictures | <input type="radio"/> iTunes |
| <input type="radio"/> Flickr | <input type="radio"/> MySpace | <input type="radio"/> Pandora |
| <input type="radio"/> Youtube | <input type="radio"/> LinkedIn | <input type="radio"/> Rhapsody |
| <input type="radio"/> Instant Messaging | <input type="radio"/> Vimeo | <input type="radio"/> Sound life |
| <input type="radio"/> Blogs | <input type="radio"/> Hulu | <input type="radio"/> Del.lcio.us |
| <input type="radio"/> Wikis | <input type="radio"/> Photobucket | <input type="radio"/> Simpy |
| <input type="radio"/> RSS | <input type="radio"/> Digg | <input type="radio"/> Blinklist |
| <input type="radio"/> Podcasts | <input type="radio"/> StumbleUpon | <input type="radio"/> Academia.edu |
| <input type="radio"/> Twitter | <input type="radio"/> Delicious | <input type="radio"/> None |
| <input type="radio"/> Internet forums | <input type="radio"/> Scribd | <input type="radio"/> Other (Please Specify): |
| <input type="radio"/> Message boards | <input type="radio"/> Dig | |
| <input type="radio"/> Wordpress | <input type="radio"/> Propeller | |

9. If you answered question 8, can you please state why your library stopped using the Web 2.0 tools indicated.

.....

.....

.....

.....
10. Please indicate any Web 2.0 tools which your library plans to implement in the future.
(Please choose all that apply):

- | | | |
|---|-----------------------------------|---|
| <input type="radio"/> Facebook | <input type="radio"/> Pictures | <input type="radio"/> iTunes |
| <input type="radio"/> Flickr | <input type="radio"/> MySpace | <input type="radio"/> Pandora |
| <input type="radio"/> Youtube | <input type="radio"/> LinkedIn | <input type="radio"/> Rhapsody |
| <input type="radio"/> Instant Messaging | <input type="radio"/> Vimeo | <input type="radio"/> Sound life |
| <input type="radio"/> Blogs | <input type="radio"/> Hulu | <input type="radio"/> Del.lcio.us |
| <input type="radio"/> Wikis | <input type="radio"/> Photobucket | <input type="radio"/> Simpy |
| <input type="radio"/> RSS | <input type="radio"/> Digg | <input type="radio"/> Blinklist |
| <input type="radio"/> Podcasts | <input type="radio"/> StumbleUpon | <input type="radio"/> Academia.edu |
| <input type="radio"/> Twitter | <input type="radio"/> Delicious | <input type="radio"/> None |
| <input type="radio"/> Internet forums | <input type="radio"/> Scribd | <input type="radio"/> Other (Please Specify): |
| <input type="radio"/> Message boards | <input type="radio"/> Dig | |
| <input type="radio"/> Wordpress | <input type="radio"/> Propeller | |

11. Which of the following Web 2.0 tools does the library use for marketing its services? Please Tick (✓) as appropriate (You may choose all that are applicable).

- | | | |
|---|-----------------------------------|---|
| <input type="radio"/> Facebook | <input type="radio"/> Pictures | <input type="radio"/> iTunes |
| <input type="radio"/> Flickr | <input type="radio"/> MySpace | <input type="radio"/> Pandora |
| <input type="radio"/> Youtube | <input type="radio"/> LinkedIn | <input type="radio"/> Rhapsody |
| <input type="radio"/> Instant Messaging | <input type="radio"/> Vimeo | <input type="radio"/> Sound life |
| <input type="radio"/> Blogs | <input type="radio"/> Hulu | <input type="radio"/> Del.lcio.us |
| <input type="radio"/> Wikis | <input type="radio"/> Photobucket | <input type="radio"/> Simpy |
| <input type="radio"/> RSS | <input type="radio"/> Digg | <input type="radio"/> Blinklist |
| <input type="radio"/> Podcasts | <input type="radio"/> StumbleUpon | <input type="radio"/> Academia.edu |
| <input type="radio"/> Twitter | <input type="radio"/> Delicious | <input type="radio"/> Others (Please specify) |
| <input type="radio"/> Internet forums | <input type="radio"/> Scribd | |
| <input type="radio"/> Message boards | <input type="radio"/> Dig | |
| <input type="radio"/> Wordpress | <input type="radio"/> Propeller | |

12. For which of the following purposes are Web 2.0 tools used by your library?

- Promoting library product and services
- Modernize the library image and e-reputation
- Reach a new audience of potential users
- Push library news and press release
- Provide quick updates to users
- Build discussion groups and collaborative work
- Spread library news and service alerts
- Reference services online
- Blogging
- Image and video sharing
- Collaborating with colleagues in other libraries
- Training resources
- Social tagging and bookmarking
- None
- Others (Please specify)

13. On a scale of 1-5, please rate how frequently you use the following Web 2.0 tools.

*Note: 1= very rarely, 2= rarely, 3= occasionally, 4= frequently and 5= very frequently

Web 2.0 tools	1	2	3	4	5
Facebook					
Flickr					
YouTube					
Instant Messaging					
Blogs					
Wikis					
RSS					
Podcasts					
Social bookmarks					
Twitter					
Other					

14. In your own views what are the best ways to optimise Web 2.0 tools for marketing library services?

15. Do you have any other comments, on using Web 2.0 to marketing academic libraries services?

Thank you for completing the survey!

Appendix 3: Questionnaire for Student

Section One - Your Details

1. Please indicate your library.

* Please choose **only one** of the following:

- UNIBEN Library UNIPORT Library UNICAL library

2. What is your gender?

- Male Female

3. What is your age category? (Please indicate only one).

- 15-20 26-30 36-40
 21-25 31-35 41 and above

4. What level are you currently?

- Third year Fourth year

SECTION TWO: WEB 2.0

5. Which of these Web 2.0 tools would you most likely use with your library? (Select all that apply please).

- | | | | |
|---|---------------------------------------|-----------------------------------|---|
| <input type="radio"/> Facebook | <input type="radio"/> Internet forums | <input type="radio"/> Photobucket | <input type="radio"/> Rhapsody |
| <input type="radio"/> Flickr | <input type="radio"/> Message boards | <input type="radio"/> Digg | <input type="radio"/> Sound life |
| <input type="radio"/> Youtube | <input type="radio"/> Wordpress | <input type="radio"/> StumbleUpon | <input type="radio"/> Del.lcio.us |
| <input type="radio"/> Instant Messaging | <input type="radio"/> Pictures | <input type="radio"/> Delicious | <input type="radio"/> Simpy |
| <input type="radio"/> Blogs | <input type="radio"/> MySpace | <input type="radio"/> Scribd | <input type="radio"/> Blinklist |
| <input type="radio"/> Wikis | <input type="radio"/> LinkedIn | <input type="radio"/> Dig | <input type="radio"/> Academia.edu |
| <input type="radio"/> RSS | <input type="radio"/> Vimeo | <input type="radio"/> Propeller | <input type="radio"/> Others (Please specify) |
| <input type="radio"/> Podcasts | <input type="radio"/> Hulu | <input type="radio"/> iTunes | |
| <input type="radio"/> Twitter | | <input type="radio"/> Pandora | |

6. Some of the reasons you would not use Web 2.0 tools concerning your library are (please indicate why, select all if applicable).

- | | | |
|--|--|---|
| <input type="radio"/> Don't have the skills to use Web 2.0 tools | <input type="radio"/> Not interested in whether the Library uses Web 2.0 tools | <input type="radio"/> Others (Please specify) |
| <input type="radio"/> Not interested in the use of Web 2.0 tools | <input type="radio"/> Privacy issues | |

7. What would motivate students to join a Web 2.0 page and follow such a page? (Please, select all that apply)

- Promotional material in the library
- Word of mouth in the library
- Link through library website
- Through search engines
- Through an advert on social media
- Others (Please specify)

8. What are the services provided by the library through the use of Web 2.0 tools? (Please indicate all that is applicable):

- Conducting virtual conferences
- Soliciting patrons' feedback
- Publicizing new acquired material and service alerts
- Spreading news about the events in other libraries
- Collaborating and share of work
- Getting library news and events around the world
- Reference/research assistance
- Creating professional connections
- Promoting distance learning
- Uploading library images
- Sharing videos conferences, workshops and library events
- Communicating with users
- Current with developments in different fields
- Tag and develop online catalogue of library resources
- Promoting services, collection, events, and resources
- Communication among participants
- Others (Please specify)

9. What kind of information would you like to see on a Web 2.0 application in your academic library (please select all if applicable)

- New books and resources
- Reference services
- Updates
- Reviews
- Pictures
- Community news
- Links to related pages
- Others (Please specify)

10. Please indicate any Web 2.0 tools which your library plans to implement in the future. (Please choose all that apply):

- Facebook
- Flickr
- Youtube
- Instant Messaging
- Blogs
- Wikis
- RSS
- Podcasts
- Twitter
- Internet forums
- Message boards
- Wordpress
- Pictures
- MySpace
- LinkedIn
- Vimeo
- Hulu
- Photobucket

- Digg
- StumbleUpon
- Delicious
- Scribd
- Dig
- Propeller
- iTunes
- Pandora
- Rhapsody
- Sound life
- Del.lcio.us
- Simpy
- Blinklist
- Academia.edu
- None
- Other (Please Specify):

11. Which other methods could be used to market academic libraries to you?

- By post
- E-mail
- Local newspapers
- Radio
- TV
- Posters and leaflets
- Publicity material in the Library
- Word of mouth
- Library website
- Other (please specify)

12. Do you think libraries that use Web 2.0 applications are advantaged compared to those that do not?

- Yes
- No

13. How important is the use of Web 2.0 tools for marketing and promoting library services?

- Very important
- Important
- Neutral
- Unimportant
- Very unimportant

14. In your own views, what are the best ways to implement Web 2.0 tools in your library?

15. Do you have any other comments, on using Web 2.0 to marketing academic libraries services?

Thanks for completing this survey!

Appendix 4: Informed Consent for Interview



30 September 2014

Dear Respondent,

Informed Consent Letter

INVITATION TO PARTICIPATE IN AN INTERVIEW

I am Faith Ashinedu Okite-Amughoru, currently a PhD candidate in Information Studies at the University of KwaZulu-Natal, Pietermaritzburg Campus, South Africa. I wish to invite you to participate in an interview on a study I am conducting on **“the effectiveness of using Web 2.0 tools to market academic library services in some selected universities in South-South Nigeria”**.

The purpose of this study is to explore the effectiveness of using Web 2.0 tools to market academic library services in some selected universities in South-South Nigeria. The findings of the study will assist your university library in developing effective strategies in marketing the library services and resources to the users.

The interview should take no longer than 30-15 minutes to complete. You are requested to kindly answer all questions to the best of your ability. Both the researcher and the Information Studies Programme in the School of Social Sciences within the College of Humanities, University of KwaZulu-Natal will maintain confidentiality and anonymity of records identifying you as a participant.

However, if there are any questions or comment, you can contact the researcher on: nedufait@yaho.com. Alternatively, you may contact the supervisor Prof. Stephen Mutula at: mutulas@ukzn.ac.za.

Thank you again for participating in this survey.

Regards

Researcher: Mrs. Faith Ashinedu Okite- Amugoro
Institution: University of KwaZulu-Natal, PMB
Cell: +27633272320
Email address: nedufaitth@yahoo.com / 214584728@stu.ukzn.ac.za

Supervisor: Prof. Stephen Mutula,
Institution: University of KwaZulu-Natal, PMB
Telephone number: +27 712 750 109
Email address: Mutulas@ukzn.ac.za

HSSREC Research Office: Ms P Ximba
Institution: University of KwaZulu-Natal
Telephone number: +27 (0) 31 260 3587
Email address: ximbap@ukzn.ac.za

Appendix 5: Interview for Librarians

- 1) What are the Web 2.0 tools used in the library?
- 2) Which of these Web 2.0 tools are used to market the library service?
- 3) Why were these particular Web 2.0 tools used selected over others?
- 4) How did the library advertise the Web 2.0 applications to users? (Did you add people such as friends, get listed on Facebook/Google/Twitter or advertise in libraries via leaflets/posters or through word of mouth from staff to users).
- 5) How are these Web 2.0 tools used to achieve the purpose of marketing?
- 6) What policy or guidelines exist for regulating the use of these tools?
- 7) Who manages the Web 2.0 tools?
- 8) To what extent do all librarians have awareness and input in these tools?
- 9) What expertise/experience do librarians have of Web 2.0 tools?
- 10) What kind of training in the use of Web 2.0 tools is provided for librarians?
- 11) What challenges do you face in the use of Web 2.0 tools?
- 12) How effective has the use of Web 2.0 tools in marketing library services been, both in terms of initial outlay and staff costs overtime?
- 13) What in your opinion is the best practice for integrating Web 2.0 for marketing?

Thank you for your time!

Appendix 6: Krejcie and Morgan (1970) Sample Table

TABLE 1
Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	{1000000	384 }

Note.—*N* is population size.
S is sample size.

Appendix 7: Adopted Questionnaire (Source: Grigsby, 2011)

Questionnaire (copied from Survey Monkey website into word)

Questions about you

These questions will give information on your age and ethnic group. This information will be used to find out who uses/would use social media marketing in the context of public libraries.

By answering these questions you give consent to taking part in this study (for further information contact kategrigsby@hotmail.com).

1. In which age category do you fall?(Select one only).

- Under 15
- 15-24
- 25-44
- 45-64
- 65+

2. Which ethnicity do you identify with? (Select one answer only please).

- White
- Mixed
- Asian or Asian British
- Black or Black British
- Chinese or Other Ethnic Group
- Not Stated
- Other (please specify)

Library Use, Social Media and Library Marketing.

These questions will ask about public library use, social media, marketing for public libraries and your views on this topic.

This information will inform how useful social media is in marketing public libraries and what users want from these applications.

3. Do you use public libraries?(Select one answer please).

- Yes
- No

4. If you joined a Social Media page for a public library which type of application would you join? (Select all that apply please).

- Facebook
- Twitter
- Flickr
- Youtube
- Blog
- Foursquare
- Myspace
- LinkedIN
- Wikis
- Delicious
- Other (please specify)

5. If you would not join a social media application concerning a public library please indicate why.
(Select all that apply please).

- Not interested in Social Media
- Privacy issues in Social Media
- Don't have the skills to join a Social Media application
- Not interested in Public Libraries
- Other (please specify)

6. If you would join a Social Media application for a Public Library, what would lead you to following such a page? (Select all that apply please).

- Through a search engine (e.g. Google)
- Friends have
- An advert on a Social Media application (e.g. Facebook)
- Promotional material in the library
- Word of mouth in the library
- Link from Public Library website
- Other (please specify)

7. What kind of information would you like to see on a Social Media application for a Public Library?
(Select all that apply please).

- Service updates
- New books/resources
- Reviews

- Events
- Services
- Community news
- Pictures
- Links to related pages
- Other (please specify)

8. Which other methods could be used to market public libraries to you effectively?

- By post
- E-mail
- Local newspapers
- Radio
- TV
- Publicity material (e.g. posters and leaflets)in local businesses/organisations
- Publicity material in Public Library
- Word of mouth
- Other (please specify)

9. Do you think libraries that use social media are at an advantaged compared to those that do not? Please can you explain why you chose this response in the comment box?

- Yes
- No

10. Any other comments on marketing, public libraries and social media?

Thanks for completing this survey!

Appendix 8: Letter of Introduction (UNIBEN)



The University Librarian,
John Harris Library,
Benin.
PMB 1154.
Benin City-Nigeria.
13th April, 2015.

RE: Introducing Mrs Faith Ashinedu **Okite-Amughoro**, PhD Student at University of KwaZulu Natal

This letter serves to introduce and confirm that Mrs Okite-Amughoro is a duly registered PhD (Information Studies) candidate at the University of KwaZulu Natal. The title of her PhD research is –The effectiveness of Web 2.0 in marketing academic library services in Nigerian Universities: a case study of selected universities in South-South Nigeria”. The outcome from the study is expected to improve practice, inform policy and extent theory in this field of study. As part of the requirements for the award of a PhD degree she is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant Mrs Okite-Amughoro permission to carry out research in your organisation(s). Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding

Prof Stephen Mutula

A handwritten signature in black ink, appearing to read "S. Mutula", is written over a horizontal line.

PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences

Appendix 9: Gatekeepers Letter (UNIBEN)



JOHN HARRIS LIBRARY

UNIVERSITY OF BENIN, BENIN CITY, NIGERIA
Office of the University Librarian

Evelyn Omoluabi Idioidi, (Ph.D)
(CLN, MNLA, MNIM)
University Librarian

John Harris Library,
University of Benin
Ugbowo, Benin City,
P.M.B. 1154
T: 052-6005568
E: librarian@uniben.edu

Our Ref:

Your Ref:

Date: 10th June, 2015

The Dean & Head
School of Social Sciences
University of Kwazulu-Natal
South Africa.

Dear Sir,

Your letter dated 13th April 2015 on the above subject matter is acknowledged.

This is to inform you that approval has been granted to Mrs. Faith Ashinedu Okite Amughero to use John Harris Library University of Benin, Benin City for her research purposes.

This is on the understanding that this will be at no cost whatsoever to our institution.

Thank You.

Evelyn Omoluabi IDIODI, Ph.D.

Appendix 10: Letter of Introduction (UNIPOINT)

The Librarian,
C/o Okede, Godbless
University of Port-Harcourt,
Port-Harcourt,
Rivers State.

13th April, 2015.

RE: Introducing Mrs Faith Ashinedu **Okite-Amughoro**, PhD Student at University of KwaZulu Natal

This letter serves to introduce and confirm that Mrs Okite-Amughoro is a duly registered PhD (Information Studies) candidate at the University of KwaZulu Natal. The title of her PhD research is “The effectiveness of Web 2.0 in marketing academic library services in Nigerian Universities: a case study of selected universities in South-South Nigeria”. The outcome from the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree she is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant Mrs Okite-Amughoro permission to carry out research in your organisation(s). Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding

Prof Stephen Mutula



PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences

Appendix 11: Gatekeepers Letter (UNIPOINT)

UNIVERSITY OF PORT HARCOURT

DONALD E. U. EKONG LIBRARY

THE UNIVERSITY LIBRARIAN

Dr. Mrs. Obiageli C. Nwodo

BA. MSLS, Villanova (USA) MA, Ph.D. (UPH) CLN.

Cell Phone: +234070 64017434

Fax: 084-230903

E-mail: Librarian@uniport.edu.ng



East-West Road
Choba
P.M.B. 5323
Port Harcourt
Nigeria

Our Ref: UPH/LIB/167

Date: 1st June, 2015

OFFICE OF THE UNIVERSITY LIBRARIAN

Mrs. Faith Okite –Amughoro
C/o Prof. Stephen Mutula
PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences
University of Kwazulu – Natal
South Africa

Dear Sir,

LETTER OF APPROVAL

I have received your letter dated April 13, 2015, seeking permission to allow your student, Mrs. Faith Okite- Amughoro to carry out her Web 2.0 research in our academic library.

As the University Librarian, I write to accept the request of your University on behalf of the student whose desire is to use our library resources for her PhD research.

We promise to give her all necessary support in order to achieve her objective.

Thank you.



DR. MRS. C. O. NWODO

University Librarian

Appendix 12: Letter of Introduction (UNICAL)



The Registrar,
C/o Okon, Ani
University of Calabar,
Calabar,
Cross River State.

13th April, 2015.

RE: Introducing Mrs Faith Ashinedu **Okite-Amughoro**, PhD Student at University of KwaZulu Natal

This letter serves to introduce and confirm that Mrs Okite-Amughoro is a duly registered PhD (Information Studies) candidate at the University of KwaZulu Natal. The title of her PhD research is "The effectiveness of Web 2.0 in marketing academic library services in Nigerian Universities: a case study of selected universities in South-South Nigeria". The outcome from the study is expected to improve practice, inform policy and extend theory in this field of study. As part of the requirements for the award of a PhD degree she is expected to undertake original research in an environment and place of his choice. The UKZN ethical compliance regulations require him to provide proof that the relevant authority where the research is to be undertaken has given approval.

We appreciate your support and understanding to grant Mrs Okite-Amughoro permission to carry out research in your organisation(s). Should you need any further clarification, do not hesitate to contact me.

Thank you in advance for your understanding

Prof Stephen Mutula

A handwritten signature in black ink, appearing to read "Stephen Mutula", is written over a horizontal line.

PhD (Information Studies Programme Coordinator)
Dean & Head: School of Social Sciences

Appendix 13: Gatekeepers Letter (UNICAL)

University of Calabar

Calabar, Nigeria

Vice-chancellor
Prof. James Epoke
B.sc.(Nig), M. sc. (London), Ph. D. (Lagos)



OFFICE OF THE REGISTRAR

Registrar & Secretary to Council

Moses O. Abang, *mnim, fcsl*
B.Sc. (Hons), MPA (Calabar)

All Correspondence to:
The Registrar
P. M. B. 1115, Calabar
Cross River State, Nigeria
E-mail: registrar@unical.edu.ng

UC/R.10

April 15, 2015

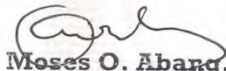
Faith Ashinedu Okite-Amughoro
C/o Dr. Okon Ani
Library Department
University of Calabar
Calabar

APPROVAL TO CARRY OUT RESEARCH IN THE UNIVERSITY OF CALABAR

We acknowledge receipt of an introductory letter from the Dean and Head, School of Social Sciences, University of Kwazulu-Natal dated 13th April, 2015. We note from the letter under reference that you are a Ph.D student (Information Studies) in that University seeking to carry out your Ph.D research in our University.

Approval is hereby given for you to carry out a research on *“The Effectiveness of Web 2.0 in Marketing Academic Library Services in Nigerian Universities: A Case Study of Selected Universities in South-South Nigeria”* in our University

We appreciate your choice of the University of Calabar for the research and wish you a rewarding experience while here.


Moses O. Abang, *mnim, fcsl*
Registrar

Cc: The Librarian
University of Calabar

Appendix 14: Contact Persons in the Universities Surveyed

	Contact Person	Designation	E-mail
1.	Mr. Abdul Rahman Garuba	System Librarian, UNIBEN	ramgarb@uniben.edu
2.	Mr. Godbless Okede	Librarian, UNIPORT	okbless21@yahoo.com
3.	Dr Okon Ani	Deputy Librarian, UNICAL	anioedet@yahoo.com

Appendix 15: Ethical Clearance



04 November 2015

Mrs Faith A Okite-Amughoro 214584728
School of Social Sciences
Pietermaritzburg Campus

Dear Mrs Okite-Amughoro

Protocol reference number: HSS/1451/015D

Project title: The effectiveness of Web 2.0 in marketing academic library services in Nigerian Universities: a case study of selected universities in South-South Nigeria.

Expedited Approval


In response to your application dated 09 October 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



.....
Dr Shenuka Singh (Chair)

/px

cc Supervisor: Professor Stephen Mutula
cc Academic Leader Research: Professor Sabine Marschall
cc School Administrators: Ms Nonhlanhla Radebe & Ms Nozipho Ndlovu

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)






Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: ximbap@ukzn.ac.za / snvmanm@ukzn.ac.za / mohunp@ukzn.ac.za

Website: www.ukzn.ac.za

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Appendix 16: Letter from Editor

04 January 2017

TO WHOM IT MAY CONCERN

This is to confirm that I assisted Mrs Faith Ashinedu Okite-Amughoro with the language editing of her thesis **‘The effectiveness of web 2.0 in marketing academic library services in Nigerian universities: A case study of selected universities in South-South Nigeria’**. I went through the entire draft making corrections and suggestions with respect predominantly to language usage and punctuation.

I may be contacted personally for further information or confidential confirmation of this testimonial.



Mrs. Barbara L. Mutula-Kabange

BEd(UBotswana), BSocScHons, MEd(UKZN)

Email: tex_lynn@yahoo.com

Tel: +27 786 439 029