Reshaping Libraries for the 21st Century: User Perspectives

Liah Shonhe
Faculty of Management & Economics
Dalian University of Technology
Liaoning province, China
lmachara8@gmail.com

Priti Jain
Department of Library and Information Studies
University of Botswana
Gaborone, Botswana
jainp@mopipi.ub.bw

Abstract
New technologies have changed the landscape of libraries and library users. Thus, the purpose of this paper is to present the findings on twenty first century library users' information needs and challenges. Data was collected through an online survey tool called Survey Monkey. The survey was designed to collect both qualitative and quantitative data. Convenient and snowballing sampling techniques were adopted due to the lack of a pre-defined population of study. Therefore, a total of 82 online participants took part in the study.

The majority (76%) of the participants expected 21st century libraries to have spaces for community building. The most expected library facilities were identified as: E-learning class rooms (79%), technology hubs (73%), group-work stations and video-conferencing (68%), and Social spaces (60%). Expected library services were: online reference services (84%), Access to Wi-Fi (74%), personalized library (69%), and OPAC (61%). The major user challenges were: poor internet connectivity (68%), inadequate online services (64%), and, shortage of technological resources (63%).

Keywords: Technology, Digital libraries, 21st century library spaces, Users' perspectives, and Library user needs, Library user challenges.

1. INTRODUCTION

A library user has always been the focal point in a library, as the library primarily exists to satisfy a user. Therefore, the library ought to re-invent itself in order to keep up with the changing demands of the user. This is particularly true in the 21st century where users' needs are constantly evolving due to advancements in Information and Communication Technologies (ICTs). Technology has enabled both the library and its users to interact through a virtual platform known as the 'library without walls' or 'digital libraries'; thus, challenging all types of libraries to implement various strategies that facilitate easy, fast, flexible, convenient and seamless access to information. Today's library users have diverse and complex needs, hence it is vital to understand them and reshape the library to meet 21st century user needs. Twenty first century libraries in developed countries have expanded and redesigned to provide a range of services using a wide range of multimedia to reach a multitude of diverse audience (Building Futures, 2011). Building Futures (2011, p.7) further argue that

> "*future design of libraries and library services has to find the right equilibrium between four key factors: the **people** for whom the library service is intended (along with the staff providing the service), the **programme** of services, events and activities required to fulfill that obligation, the **partners** with whom the library authority might wish to undertake a joint development or venture, and the **place** of the library itself*".

1.1 Statement of the problem

Primarily, due to rapid advancement of ICTs, today's library professionals face multiple challenges in meeting user needs in the second decade of the new millennium. Most of the existing library literature and empirical research emphasize the need for professional development, paradigm shift, and new information seeking behaviour and challenges for information professionals. There is dearth of studies that focus only on users' perspectives of the 21st library and their challenges. Hence, there was a need to carry-out such a study to attempt to fill that gap to redesign library spaces and services to accommodate the 21st century users and make libraries relevant to them. Based on this premise, this paper establishes issues pertaining to library spaces and services that meet the needs of the 21st century library user. This paper focuses on user perspectives of different types of libraries.

1.2 Objectives of the study

The main purpose was to establish how library users view the influence of ICTs in the provision of library services and what their expectations are. To achieve the main purpose, the study pursued the following objectives:-

a) identify the types of library spaces preferred by users,

b) establish users' perspectives on 21st century library services,

c) establish library user challenges.

2. LITERATURE REVIEW

This section discusses the current literature pertaining to trending issues of the 21st century libraries and their users.

2.1 Twenty-First Century Library Spaces

Various libraries in developed countries are redesigning their library buildings to meet up with the 21st century demand and concept of "library as space". According to Seal (2015) space has always been an issue in libraries, especially pertaining to issues of how materials are stored, displayed, and made accessible; where services are located; and where staff and service points are placed. Shobha (2015) claims that globalization and information communication technology have changed the classical library and its building. Thus resulting in a communication based library rather than a collection based one. The 21st century library building should have a functional design rather than a monumental one. Therefore, the following qualities of a good library space should be taken into consideration; functional, extendable, environmentally suitable, flexible, adaptable, safe and secure, suitable for information technology, accessible, efficient, varied, interactive, ambience, conducive and provision of areas for documents, staff library equipment and services areas (Majal, 2017; McDonald, 2006; Shobha, 2015). Due to 21st century user demands (knowledge creation, group work, social interaction, and access to technology) libraries have implemented spaces known as learning commons, research commons and information commons (de-Oliveira, 2017; Seal, 2015). These spaces equipped with technology in many forms and have spaces for group work. There is access to digital media and online collection; and users are able to access librarians and technology experts (Seal, 2015). Modern libraries are digital and physical, dynamic and enduring, exciting and inspiring. They embrace new information technology and lead the community in employing it for research, teaching and public outreach and provide a home for new

computing-intensive research (UC Davis Library, 2016). Georgia Tech University is re-defining and re-imagining the library to be an innovative, user-centered research library for the 21st century. Physical spaces and library services are evolving to match the changing research, teaching, and learning needs of Georgia Tech. The change is inevitable because of the adoption of ICTs. The library is defined by seamless e-resources and SMARTech, Georgia Tech's institutional repository (Georgia Tech Library, 2017). These are the types of spaces that developing countries should strive to implement as a way of meeting 21st century user needs. The notion of libraries as physical or conceptual gates that can be opened and closed is nostalgic and belongs in the past. Today libraries are considered as multipurpose spaces welcoming space for information, a social space, an experimental space, as well as a safe space in many ways not a single, physical space (Quezzaire, 2018).

2.2 Twenty-First Century User Needs

Just like libraries, users have also evolved due to advancement in technologies. Learners, researchers and general library public users have attained 21st century information seeking skills and their information seeking behavior or patterns have also changed drastically due to the influence of technology. As a result, user demands and needs have become so complicated. Majority of the 21st century library users are digital natives who believe that they can find any information on the Internet and they communicate through social networks such as Twitter, Facebook, WhatsApp (Ptak-Danchak, 2012). In a study by Olarongbe, Adepoju, Akanbi-Ademolake, and Pedro (2013) it was revealed that the top six information needs of public library users in Nigeria were; academic information, personal development, general information, provision of social amenities, government policies/programmes and agricultural information. The study further revealed that users access the Internet (98%), friends (32%), radio/television (22%) and make use of the library (97%) to satisfy their information needs. Furthermore, 86% of the respondents indicated that they visit the library daily and 53.6% of the respondents who visit the library, seek for information through browsing the Internet. This shows that the 21st century user is dependent more on the library and internet for information access. Thus a 21st century library should re-invent itself to meet these needs, demands and expectations by providing people oriented services through various technological platforms. It is rightly affirmed by Anyira (2011), that any type of library is said to be effective when the library users are satisfied.

2.3 Twenty-First Century Library Services

The 21st century library with adequate and functional spaces, turn to meet user needs and demands through the following mechanisms (the four Cs): collaboration, connectivity, creation of knowledge and community. According to Seal (2015) these four Cs are the foundation for the service philosophy of the information/learning commons. Collaboration entails formal and informal class groups to complete assignments and prepare for exams. Creation of Knowledge is facilitated by a number of factors such as, software for group projects; digital media services (for example; equipment loan, instruction in the use of equipment and software; online print, and audiovisual resources) and assistance from information professionals. Connectivity denotes the student's desire to retrieve information and be connected to their families and friends via the Internet. The fourth 'C' is concerned with creating a community through social interaction. This turns to serve as a replacement for the student center (Seal, 2015). In order to achieve the four Cs, the 21st century library should provide the following services within the information/research/learning commons: symposium technology, technology hubs, writing center, reference services, multimedia studio with assistance, plasma stations, lounge/social spaces, skill development, bean bags, smart boards, 3D projector, video conferencing, e-learning classrooms, training in computer software and application, research consultations and tutoring (de-Oliveira, 2017). Furthermore, libraries have adopted ICTs for the provision of information in the 21st century era. Examples of library services provided via mobile technologies include; short message services notification, quick response (QR) codes, social media networks (e.g. Twitter, Facebook. WhatsApp, Instagram), library websites, mailing list, personal space/my library platform, online public access catalogues (OPAC), networked databases, web cam, online reference services, and online VOD system (Nalluri & Gaddam, 2016; Saxena & Yadav, 2013; Verma & Verma, 2014).

To summarise the dimensions of 21st century libraries, Margaret Sullivan Studio (2016) appropriately outlines the components of a 21st century library. These components include four strategic goals; Community and culture, limitless learning, business and career, social and government. The strategic goals are executed through services, programs and various activities. These components provide a vision for the 21st century service model each library should implement when designing their library building and services.

2.4 Library User Challenges

There seems to be scarce literature on challenges faced by users; most researchers deliberate on challenges faced by librarians in serving 21ˢᵗ century library users. Lasode, et al. (2015) revealed that undergraduates students at the Federal University of Agriculture in Abeokuta, Nigeria faced numerous challenges in the use of library services. Major challenges identified were; inadequate internet services, poor infrastructural challenges, outdated books and insufficient space to accommodate users. Mahwasane and Mudzielwana (2016), argue that insuficient user education, lack of computer knowledge and lack of information retrieval skills were some of the challenges faced by students in accessing information in the library. Mumo (2007) also states that, poor telecommunication infrastructure, lack of publicity of resources, faulty information retrieval tools and untrained library staff are some of the barriers to retrieivng information resources in academic libraries. Low internet bandwith, lack of browsing skills and inadequate ICT infrastructure were also cited as challenges faced by students when searching for online information (Ugwu & Orsu, 2017). All these studies that have attempted to establish challenges faced by library users only focused on academic libraries while others focus on challenges pertaining to library instruction/user education only.

3. METHODOLOGY

Data for this research paper was collected using an online program called SurveyMonkey. The survey questionnaire comprised of nine closed ended questions and one open ended question. Some of the closed ended questions had an open ended section where participants could add their comments regarding that particular question. Therefore, the data collected is both quantitative and qualitative but largely quantitative. The survey link was distributed via email and Facebook account. This means that the accessibility of the link was only limited to individuals within the researchers' digital circles and/ online community (thus convenient sampling was used to access library users within the researchers' online connections). Therefore, there was no pre-defined sample size due to lack of an established population size (This was because the study participants were from various areas where the target population cannot be established). This survey also depended on snowballing sampling (that is participants whom the link was directly sent to, they were asked to also share the link to their friends). The survey link was made open to the public from February and closed in June 2018 when there were no more responses being received. A total

of 84 participants took the online survey. Quantitative data was analyzed using Microsoft Excel while qualitative data was analyzed using QDA Miner Lite software (v2.0.5) from Provalis Research. Qualitative data was represented by using numerical codes as automatically assigned by SurveyMonkey software using the response number. This was done to maintain anonymity of the participants.

4. FINDINGS AND DISCUSSION

A total of 82 participants took part in this study. Most (n=47, 59%) of the participants were from Botswana, while there were three (4%) participants each from China, United Kingdom of Great Britain, India, and Zimbabwe. In addition, two (3%) participants represented each of the following countries; Nigeria, Uganda, and Zambia. While the following countries were represented by one (1%) participant each; Afghanistan, Angola, Cameroon, Ghana, Japan, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Norway, Seychelles, Slovenia, South Africa, Swaziland, United States of America. Three participants did not indicate their country of residence.

4.1 Participants Characteristics

The study participants comprised of students (n=21, 26%), civil servants (n=16, 20%), Teachers/lecturers (n=15, 19%), private company employees (n=15, 19%), entrepreneurs (n=10, 12%), unemployed individuals (n=3, 4%) and artisan (n=1, 1%). Only three participants did not indicate their occupation. These findings show that libraries serve diverse types of users from different backgrounds; hence library services should be customized to suit diverse information needs. Study participants were also asked to indicate which category of the 21st century library user they belonged to? Majority of the users were digital immigrants (n=53, 65%), followed by digital natives (n=27, 33%) and digital fugitives (n=1, 1%). This implies that 98% of the participants have the ability to use technology with 65% having intermediate skills and 33% being proficient in technology use. Thus, libraries should expect their clients to request more digital information and access to digital resources or equipment to satisfy their information needs. As a result, all types of libraries should ensure that technology literate staffs are hired and libraries are technologically equipped.

In terms of type of libraries participants were using, the findings indicate that 47 (56%) participants accessed academic libraries, 16 (19%) participants used public libraries, and 13 (15%) participants used school libraries while only 8 (10%) participants were using a special library.

Table 1: *Participants' Source of Information (N=82)*

Source of information	Frequency	Percentage (%)
Internet	70	86
Library	9	11
Archival repository	2	2
Friends/Colleagues	1	1
Radio/Television	0	0

Source: Field work (2018).

Regarding the users' sources of information, the study participants were given five sources of information and asked to choose the one they were most dependent on. The results are presented in Table 1 above. Majority (n=70, 86%) of the participants were dependent on the Internet to satisfy their information needs while nine (11%) participants depended on the library for information access. Some of the participants acknowledged their source of information as the '*archives*' while participant No.79 stated that "*I depend on internet access to photocopied files/documents*". Thus, as depicted by the study findings, the need for libraries to have reliable internet access and digitized content cannot be over emphasized.

4.2 The 21st century users and their perspectives of library services

4.2.1   Library as a Third Place

Objective one of the study sought to determine the types of library spaces preferred by users. Therefore, participants were first asked to indicate whether they consider the library as a 'third place' where creative interaction is fostered through community building? In response to this question, 61 (76%) participants said 'yes' while 18 (23%) said 'no'. Only four participants did not answer this question. These findings indicate that library users do not only consider libraries as information hubs, but rather as a place where they can also build community relationships. This concurs with findings by Lin, Pang and Luyt (2014, p.1) who found out that, "for young people in Singapore, the library is a social place, study place, as well as information and/or entertainment place. As a social place, young people socialize with others from diverse backgrounds via the library. The ambience of the library creates conducive environment for young people to stay and

study diligently". Montgomery and Miller (2011) also maintain that the college library building's core role is as a space for collaborative learning and community interaction that cannot be jettisoned in the new era.

4.2.2 Expected Library Facilities or Spaces

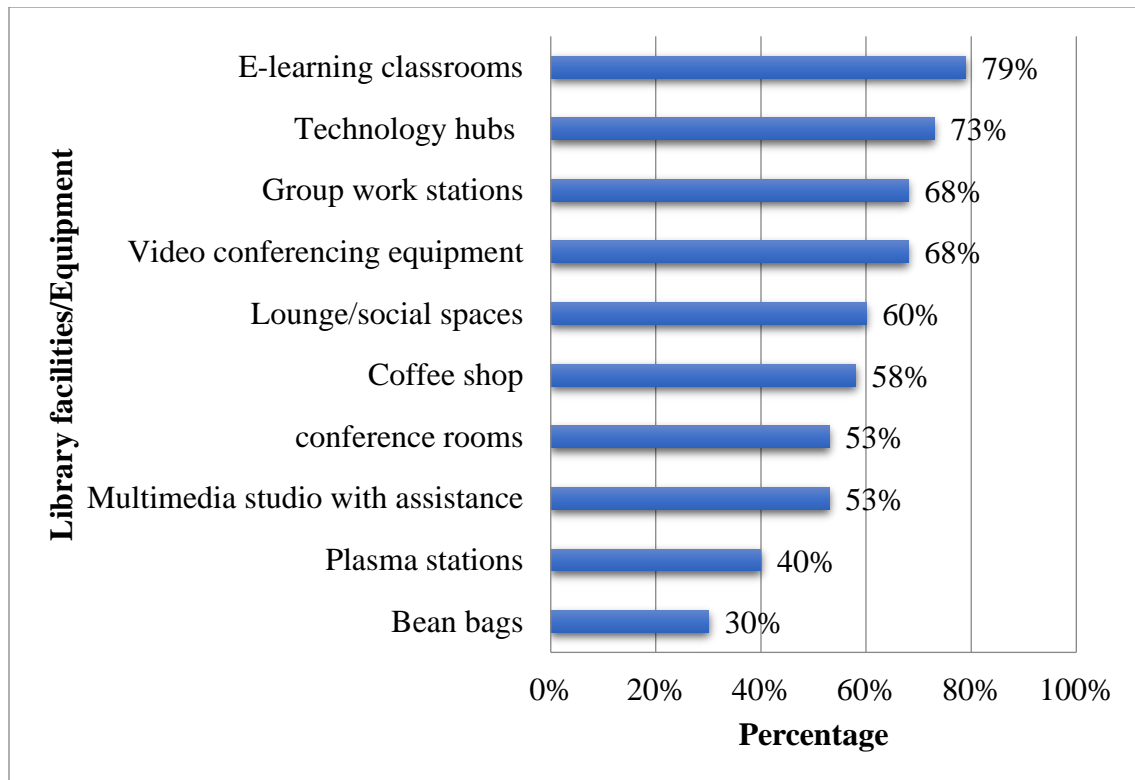Participants were also asked to identify the library facilities they expect to find in a 21st century library.

Figure 1: *Library facilities or spaces expected by library users (N=81).*
Source: Field data (2018)

Figure 1 above shows the facilities or common learning spaces that participants expect to find in the 21st century library. The most commonly expected facilities or library spaces were identified as; E-learning classrooms (n=64, 79%), Technology Hubs (n=59, 73%), group work stations and video conferencing equipment (n=55, 68%) and lounge/social spaces (n=49, 60%). Other facilities were identified as; coffee shop (n=47, 58%), conference room and multimedia studio with assistance (n=43, 53%).

In addition, participants also mentioned that they expect the library to have the following in place; "*reliable internet, newspapers, and good furniture*" (participant No.39), "*Space where on the spot assistance can be provided e.g. on writing skills*" (participant No.37), "*Free Wi-Fi*" (participant No.33) and "*Spaces for individual work*" (participant No.8). These findings are supported by de-Oliveira (2017), who outlines the following trends in academic libraries: areas for subject tutoring, large tables for working on posters, training presentation practices and document visualizers. de-Oliveira (2017), further notes that library spaces should have areas for relaxation of the regulations on food, drink, and mobile phone usage. In addition, library staff should rove the area and offer assistance to library users.

The above findings clearly imply that 21st century users prefer library spaces which are technologically equipped and cater for group work sessions. They also expect to get assistance from the librarians. This means that 21st century librarians should be ready to assume the roles of an instructor, tutor or teacher. Hence their professional development is of paramount importance in this fast paced technological era. Margaret Sullivan Studio (2016, p.8), has rightly suggested that "the purpose of service design methodologies is to design according to the needs of customers or participants so that the service is user-friendly, competitive and relevant to the customers." This infers that future library designs, especially in African countries, should be customer centric so as to meet the demands of the 21st century library user as depicted in the study findings above.

4.2.3   Expected Library Services

The second objective of the study was to establish users' perspectives on 21st century library services.
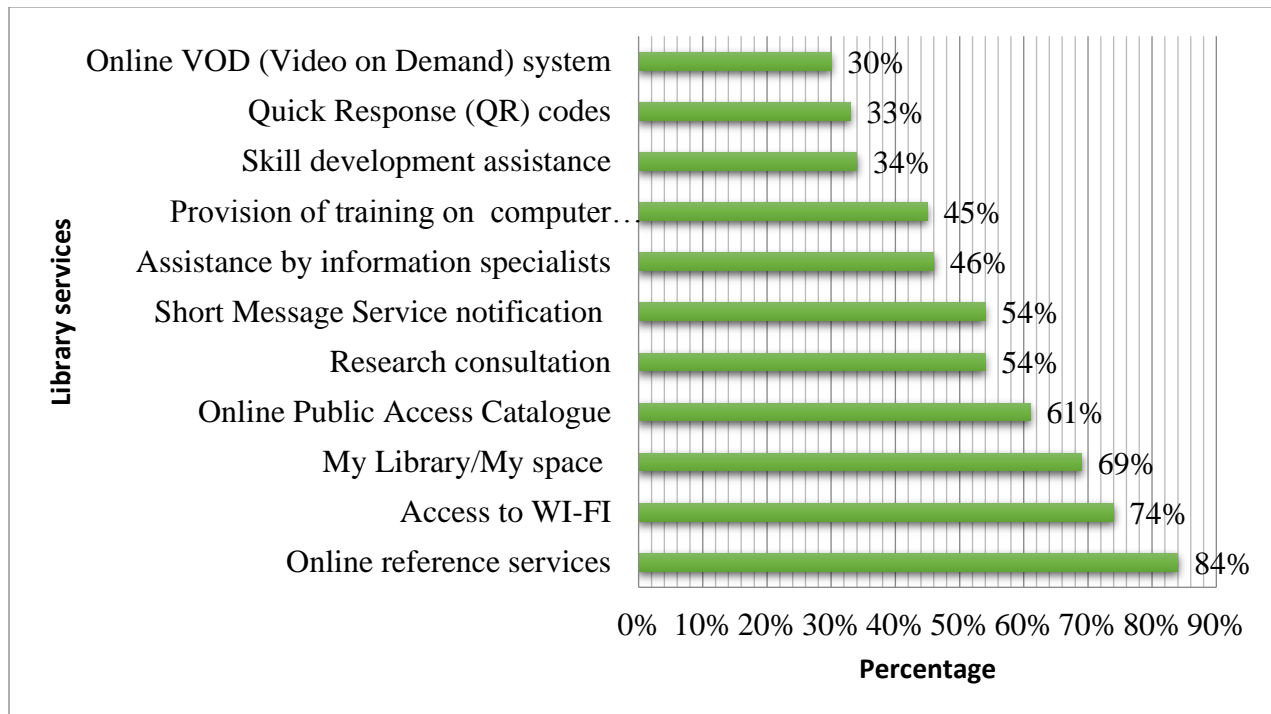
Figure 2: Library services expected by 21st century users (N=80).
Source: Field data (2018)

Figure 2 shows that 21st century library users mostly expect to receive services which are technology lead. For example, most participants expect; online reference services (n= 67, 84%), access to Wi-Fi (n= 59, 74%), personalized library/My library/My space (n= 55, 69%), OPAC (n=49, 61%), research consultation and SMS notification (n=43, 54%).

Other services identified in the comments section were; "*access to new and often expensive technologies such as; 3D printing, programmable robots*" (participant No.72), "*real time linkage with external libraries*" (participant No.37), "*online journal access*" (participant No.79) and "*referral and translation services*" (participant No.17).

4.2.4   User's Perspective on the 21st Century Library

The study participants were further asked to indicate their understanding of the 21st first century library. This was an open ended question which was analyzed using thematic coding.

Figure 3: Participants' perspective of the 21st century library.
Source: Field data (2018)

As per the findings, the results clearly indicate that library users view the 21st century library as a library which is technology based, it is a digital and online library, it is virtual, a library without walls and provides spaces for community building. Figure 3 further shows a word cloud of the phrases that users associated with the 21st century library.

Participant No.72 expressed her understanding as follows:

"*A 21st century library should have access to physical and traditional library offerings, like books, DVDs, CDs, magazines, etc. but also should provide digital items (audiobook downloads, eBooks, e-magazines, media streaming) and non-traditional access to new technologies (3D printers, AV equipment, etc.). The public library system in Chicago is a great model.*"

Participant No.61 also noted that "*libraries in the 21st century are not simply archives of information; rather, they have become dynamic hubs of student-centered inquiry.*" Further explanation by participant No.47 revealed that a 21st century library "*...is more advanced with highly advanced search engines and can even afford one the chance to interact with journal editors and publishers for information that one cannot find in the Library.*" Participant No.18 also associated the 21st century with a library without walls. She further says "*it is a one stop information center where one can access information in different forms using technology*"

These findings clearly indicate that library users are very much aware of what a 21st century library should be like as shown in the word cloud above. It is evident that participants expect the 21st century library to be technology based and provide efficient and seamless information access through virtual libraries. The study participants also associate the 21st century library as being modern and dynamic, thus it is flexible and able to accommodate changes.

4.3 Challenges Faced in Using Current Libraries

Objective three sought to establish the challenges faced by library users. This was meant to establish some of the hindrances to achieving a 21st century library service model. Table 2 below presents the challenges faced by library users.

*Table 2***:** *Library User Challenges (N=76)*

	Percentage	Frequency
Poor internet connectivity	68%	52
Inadequate online services	64%	49
Shortage of technological resources	63%	48
Lack of library management software	46%	35
Library proximity problem	43%	33
Lack of adequate and welcoming space of the library	37%	28
Lack of computer skills by librarians	34%	26

Source: Field data (2018)

The most eminent challenges are poor internet connectivity (n=52, 68%), inadequate online services (n=49, 64%) and shortage of technological resources (n=48, 63%). All these issues are related to technological infrastructure which is a key component to achieving the 21st century library goals. If these challenges are not taken into consideration, libraries will continue to lose their value and not meet the demands of the 21st century users.

Comments from the participants also revealed the following challenges;

- Poor cataloguing of library resources, hence making it difficult to retrieve information.
- Lack of new and academic books in public libraries (out dated information resources)
- Lack of libraries in some areas, hence proximity is a hindrance.
- Epileptic electricity power supply

- Lack of engagement between a service provider, researchers and students (Subject-matter expertise)

Participants No.27 and No.38 lamented about poor library services. They noted that there is lack of customer care, poor reception of customers and bad attitude by librarians towards patrons. In addition, another participant also lamented about the age gap and computer literacy skills of librarians. "*Most librarians are very old and do not know anything about computers*" said participant No.3. It is therefore evident that libraries need to improve a number of areas in order to meet the information needs of the 21st century user. This may require rigorous training of librarians as their roles are changing with each decade.

5. CONCLUSION AND RECOMMENDATIONS

It is evident from the findings that library users are knowledgeable about 21st century trends in libraries hence they expect their local libraries to re-position and suit into the 21st century era. Study findings have revealed that patrons expect 21st century libraries to have spaces for community building, provide assistance to library users, be technologically equipped and have access to online databases. Every library operates to satisfy the needs of its clientele, it is therefore recommended that all types of libraries should redesign their building and their service model structure in order to perform to the maximum and achieve their core mandate. Based on the findings of this study, the researchers strongly recommend that all libraries should redesign their libraries based on the four strategic goals of the 21st century library (Community and culture, limitless learning, business and career, social and government) as suggested by Margaret Sullivan Studio (2016). The researchers therefore, suggests the following framework (Figure 4) for reshaping 21st century libraries and library users. Libraries can use this framework as a guide to develop a service strategy model that suits into the 21st cenutry era.
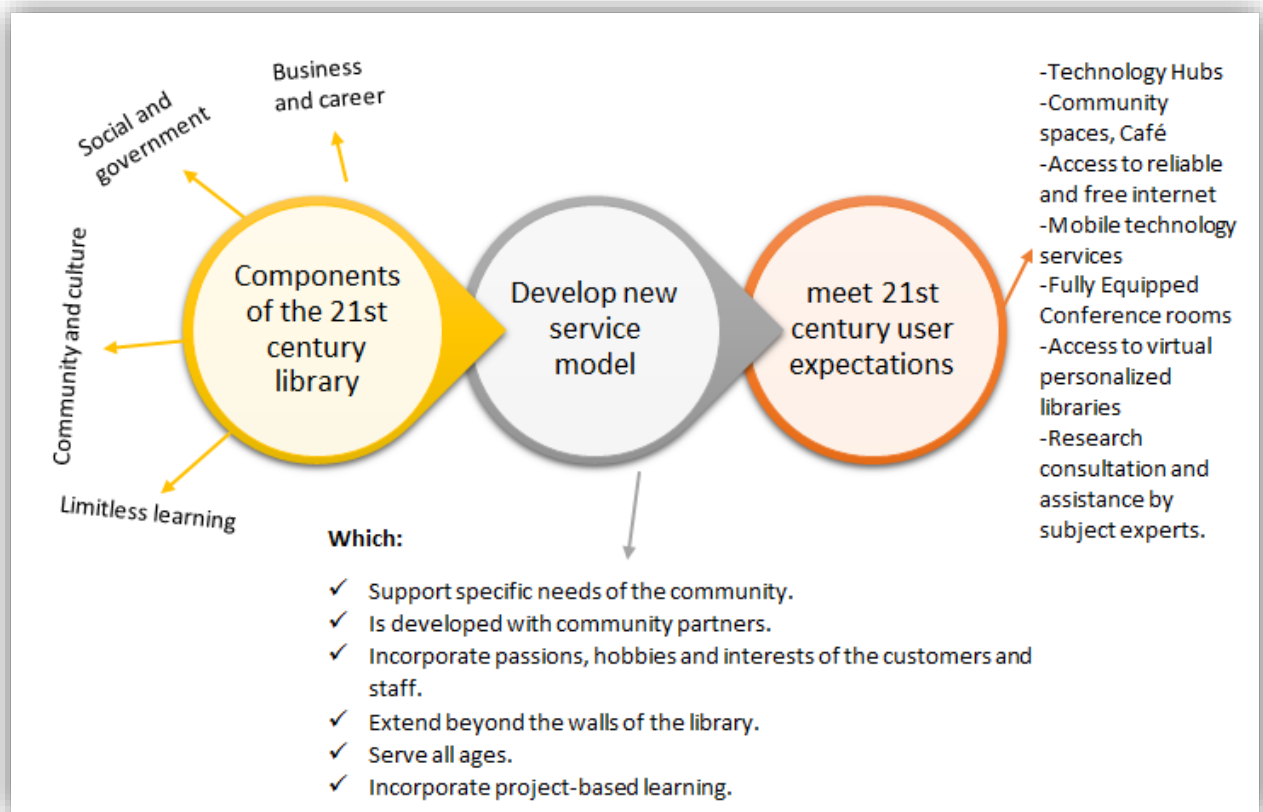
Figure 4: Proposed framework for 21st century libraries.
Source: Field data (2018) and concepts adapted from Margaret Sullivan Studio (2016).

The framework simply denotes that libraries should use the components of the 21st century library to formulate a new service model that supports specific needs of the community, developed with community partners and extend beyond the walls of the library. By so doing the library will be able to serve customers efficiently and meet the 21st century user expectations.

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