

**DISRUPTIVE FORCES AFFECTING LIBRARIES: ANALYSIS OF  
STRATEGIC RESPONSIVENESS OF UNIVERSITIES IN MERU COUNTY,  
KENYA**

**FAITH NTINYARI GITONGA**

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Technology in Partial Fulfillment of the Requirements for the  
Conferment of Master of Science Degree in Information Science  
of Kenya Methodist University**

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## **DECLARATION AND RECOMMENDATION**

This thesis is my original work and has not been presented for the award of a degree or any other award in any other university.

Signed..... Date.....

Faith Ntinyari Gitonga

ISK-3-0408-1/2020

### **Recommendation**

We confirm that the candidate carried out the work reported in this thesis under our supervision.

Signed..... Date.....

Prof. Paul Maku Gichohi, Ph.D

Kenya Methodist University

Signed..... Date.....

Prof. David Gichoya, Ph.D

Kenya Methodist University

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## **DEDICATION**

To my son Oliver Muthomi Murithi, excel beyond the academic horizons of your times.

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## **ABSTRACT**

Responsiveness to disruptive forces is a participatory role for all stakeholders including university libraries. However, the role of university librarians in Meru County in responding to disruptive forces has been slow and marred with some sort of unpreparedness. This study aimed to assess the strategic responsiveness of university libraries in Meru County, Kenya to disruptive forces. To do this, the study examined the technology responsive measures, cooperation initiatives, capacity building programs and resource sharing initiatives pursued by university libraries in the county. The study was guided by technological organization environment theory and organization theory. It used qualitative approach and employed a survey research design. The target population was the senior library staff in the two university libraries. Unit of analysis was Kenya Methodist University and Meru University of Science and Technology university libraries and unit of observation was 15 university library staff; specifically, 2 university library heads and 13 heads of library sections. Data was collected through interviews, focus group discussions and document analysis; then analyzed using content analysis and thematic categorization in relation to the state of responsiveness of university libraries to disruptive forces and their implications on policies and practices. The study findings indicate that libraries have adopted technology-based measures such as e-library software, anti-plagiarism solutions and social media channels to improve communication with library users. Another finding is that library management provides support in terms of budgetary allocation, stakeholder involvement in decision making, implementation of staff capacity building programs, and moderation of partnerships between libraries and the different faculties. The findings revealed good working relation between library staff, faculty members and students in terms of their receptiveness and willingness to cooperate on resource sharing. The study concluded that university libraries have taken moderate measures in responding to disruptive forces through leveraging on technology, cooperation initiatives, capacity building programs and resource sharing initiatives. The university management have employed skilled library staff who are capable of adapting to a new technological environment, although there is a need for refresher training to enable them adapt to the new technological landscape. The recommendation is that libraries review their cooperation and resource sharing policy with other libraries to improve on procedures, processes and information exchange. Another recommendation is that library management need to provide adequate budgetary allocation to support staff training, community engagement, and acquisition of library resources. Further, libraries are supposed to leverage on disruptive forces to enhance their operating efficiencies, adaptability to the changing environment, innovation and staff development. The study is valuable in contributing new knowledge in the theory aspects of librarianship.

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## **ABBREVIATIONS AND ACRONYMS**

<b>AMICAL</b>	American International liberal Arts Institution
<b>AUB</b>	American University of Beirut
<b>CARLC</b>	College and Research Libraries Consortium
<b>CDs</b>	Compact Disc
<b>CIA</b>	Confidentiality, Integrity and Availability
<b>COLINE</b>	College Libraries Information Network
<b>CUE</b>	Commission of University Education
<b>DOAJ</b>	Directory of Open Access Journal
<b>FGDs</b>	Focus Group Discussions
<b>ICT</b>	Information Communication Technology
<b>IFLA</b>	International Federation of Library Associations and Institutions
<b>IR</b>	Institutional Repository
<b>JULAC</b>	Joint University Librarians Advisory Committee
<b>KENET</b>	Kenya Education Network
<b>KeMU</b>	Kenya Methodist University
<b>KLISC</b>	Kenya Library and Information Services Consortium
<b>LMS</b>	Library Management Systems
<b>MOOC</b>	Massive Online Open Course
<b>MOUs</b>	Memorandum of Understanding

<b>MUST</b>	Meru University of Science and Technology
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NEPAD</b>	New Partnership for Africa Development
<b>OCLC</b>	Online Catalog Library of Congress
<b>PLoS</b>	Public Library of Science
<b>TOE</b>	Technological Organization Environment
<b>RFID</b>	Radio Frequency Identification
<b>WWW</b>	World Wide Web
<b>ZULC</b>	Zimbabwe University Library Consortium

# CHAPTER ONE

## INTRODUCTION

University libraries have continuously supported learners in gaining quality university education by facilitating the selection, creation, organization, storage, access and dissemination of information resources. This study was set out to analyze the disruptive forces affecting university libraries and determine the strategic responsiveness adopted by librarians in addressing these disruptions. The background of the study gives an insight on how disruptive forces have progressively influenced library operations and point out the emerging trends and measures adopted in responding to disruptive forces.

### **1.1 Background to the Study**

Disruptive forces have changed how organizations operate by enabling work processes consistency and embracing new creativity and innovations. Disruptive forces in this case are those sophisticated activities that contribute to transformational change in libraries (Udochukwu & Agunwamba, 2021). They can be the technology advancements, open access initiatives (Kwanya, 2017), activities put in place to support information sharing among organizations, swift methods and techniques to enhancing co-operations and development of new programs to build capacity. All these activities are meant to simplify the work of Libraries in providing solutions to academicians and empowering universities to carry out their mandate. Jule (2017) posit that library disruptions make it easier for users to access information.

Education sector is among the many areas that have been affected by changes. However, libraries and research centers being the pillar of every university have braved the disruptive forces by instituting responsive mechanisms. In most cases, university librarians respond by advancing their services not only by creating, storing and

accessing information resources to their respective clients but also disseminating information services efficiently.

The constant use of technology and the urge for university libraries to innovate amid turbulent times of low budget placement, require librarians to build multiple knowledgeable skills and have flexible approaches to provide digital advisory services. Kwanya (2017) argues that the current digital disruption has increased pressure to librarians to keep up with automation, cloud sourcing, social media and mobile technology. As noted also by Jule (2017) introduction of World Wide Web (WWW) triggered university libraries to redesigning user- centered services, facilitate effective communication and enforcing quality management, effective maintenance and presentation of resources. Udochukwu and Agunwamba (2021) argues that disruptive changes impact how technical skills, managerial skills, support services, communication, research and quality assurance are administered in a postmodern university library.

It is expedient to note that libraries are seeing a shift away from physical media such as books and CDs, towards digital media such as ebooks, audiobooks and streaming services (Gul & Bano, 2019; Nzioka, 2018). New technologies such as virtual reality, augmented reality, artificial intelligence, robotics and 3D printing are also reshaping how information is accessed, shared and used by current library users. There is also an increased tendency of users changing their taste and preferences, these users increasingly expect to be able to access information quickly and easily, and are used to being able to customize their experience. Decline in library visits has also increased due to availability of more information and services online. For instance, the age bracket of many university students are young adults who consistently use advanced technology such as laptops and smartphones to access information thus giving them more

opportunity to access information even when they decline to visit the library (Kamau & Adika, 2018; Islam, 2022). The open access movement has also changed the way research is published and accessed, making scholarly information more freely available. Consequently, the rise of open source software enable Libraries to increasingly reduce on costs and customize their applications. Increased crowd funding also has allowed libraries to raise money for special projects, such as digitizing rare materials or developing new services (Jule, 2017; Kwanya, 2017; Patrcikson & Newman, 2017). These indicators of disruptive forces has over time led to loss of expertise from the side of librarians as they are continually losing their competitive edge and may become less valued and less sought thereafter.

Different libraries in the developed world have adopted to disruptive forces in their respective universities to not only improve learning outcomes, but also create new paradigms and environments that support development of skills and knowledge required for the present and future outcome. Allen and Taylor (2017) argues that University librarians' in developed countries have been in the forefront in realigning libraries with faculty as their primary partners by placing the emerging technologies, trends and services of the 21<sup>st</sup> century at the center of learning.

Universities in the Americas and Canada have introduced virtualized infrastructure services that help librarians communicate and interact with clients in real time. Use of virtual platforms such as skype, virtual reference services and emails in Canadian universities have allowed effective monitoring of user activities, improved user training, user convenience through reduced physical visitation times, as well as identification of technologies that require improvement or new ones for integration into existing systems (Hervieux & Tumon, 2018; Patrickson & Newman, 2017). American universities on the other hand have invested in information technologies that support



collaborative learning, online teaching, research, and delivery of services that facilitate building of new competencies among staff and users alike.

American universities are considered as centers of excellence due to their ability to use information technologies to create and avail timely, accurate, reliable and relevant information (Dali et al., 2020). The study by Gupta and Singh (2021) has discussed the use of internet of things to create virtual library tours, notification services on issues regarding borrowed books, online payments of library services and metadata suggestions while searching across multiple databases. Integration of multiple technologies has further enabled cost savings on procurement of print materials, diversification of library services and provision of books in multiple formats according to user demands. Regardless, these libraries are still facing challenges that include budgetary constraints and policy frameworks that disallow librarians to respond to disruptive forces adequately (Nesta, 2019; IFLA, 2012).

European and Australian university libraries have launched technology responsive initiatives as a means of responding to disruptive forces. These university libraries offer virtual reference services in different forms. For instance, MacQuarie University Library in Australia offers ‘LibAnswers’ ask a librarian platform that is easy and allow a real time interaction with the librarian (Patrickson & Newman, 2017). German university libraries as well have embarked on revising their policies to facilitate open access initiatives and take into considerations free access of information resources for attracting more readers and further, developed anticipative policies to ensure skills trained to librarians are in synch with the dynamic economic and sociocultural needs of users (Nagpal & Radhakrishnan, 2022).

In the Asian continent, countries like India have implemented technologies to facilitate access to library resources in line with national goals of universal access to education. Bangladeshi libraries have invested in cloud computing technologies to host web-based applications, manage digital libraries and offer online cataloguing services (Islam et al., 2022). Although these technologies have reduced costs of operations while accommodating more users, their implementation is costly, which is prohibitive to adaptation of disruptive forces within the libraries. Interestingly, china and Hong Kong have taken an innovating approach where digital initiatives that reflect trending technologies are initiated to facilitate research and teaching. They have also come up with Joint University Librarians Advisory Committees (JULAC) to form a closer cooperation for grant sourcing, sharing storage space and joint purchasing of information resources to save on cost and time (Nesta, 2019; Ranganathan, 1931).

African universities have also discovered that successful libraries are the ones that can support knowledge creation, efficient management of data, collaboration and provide conducive environment for scholarly work (Bakare & Bakare, 2021). This is the basis for the current investments in library technologies across the continent to ensure information is created, aggregated and disseminated without limitations of time and location. However, adoption and implementation of transformative technologies has been slow due to lack of policy frameworks, financial constraints, immature digital culture and lack of capacity for big data demands (Farooq, 2016).

Ghanaian libraries have managed to handle diverse user needs using integrated technologies to deliver uniquely packaged information to their clients (Patricikson & Newman, 2017). Nigerian libraries have also designed institutional repositories to maintain print materials electronically for diversification of access and sharing of information (Eromosele et al., 2022). In fact, African countries are reinforcing their

libraries through programs such as New Partnership for Africa's Development (NEPAD) in their attempt to build knowledge based economies through shared catalogues, information exchange and alliances for implementing new technologies (Nesta, 2019).

In east Africa, libraries in Tanzania are rapidly adopting new trends and technical changes by employing librarians who are highly trained and have willpower to undergo additional training through career advancements. Over time, the capabilities and literacy levels of librarians have increased enabling them to respond to the rapidly changing user demands in Tanzanian context (Mwinyimbegu, 2019). An analysis of Kenyan universities by Kwanya (2017) indicates an effort towards progressive implementation of technology tools that enhance information access and knowledge acquisition among users. Much progress in the Kenyan context has been gained through oversight institutions such as Kenya Library and Information Services Consortium and Commission of University Education (CUE).

The role of Kenya Library and Information Services Consortium is to coordinate the universities in terms of access to electronic materials, development of shared catalogues and spearheading formation of partnerships among libraries: both public and private. Commission of University Education on the other hand is tasked with providing guidelines that streamline the roles of libraries in accordance with the needs of current and future users. Universities that fail accreditation by CUE risk losing their ranking and access to postmodernist oriented guidelines (CUE, 2012). Although Kwanya (2017) and Dali et al. (2020) argue that university libraries are supposed to work as institutional repositories that promote creation, storage and dissemination of information through open access, Kenyan universities still face fundamental challenges such as poor stakeholder involvement, insufficient funding, poor technological

infrastructure and lack of capacity building which has over time stifled responsiveness of librarians.

Meru County hosts two main universities, Kenya Methodist University and Meru University of Science and Technology and the Commission of University Education accredits their libraries. Although their libraries are well equipped and fully-operational, various concerns have been raised about readiness of librarians to disruptive forces in terms of their skills and knowledge. Other elements of concern include financial constraints despite librarians being motivated to implement innovative solutions, packaging and presentation of information and inability of students to comprehend why they should visit libraries whereas there is plenty of free information in alternative online platforms (Kwanya, 2017).

The two universities also host international students and their library needs are diverse in terms of how information is packaged and presented. Therefore, the challenge is about how to maintain relevance of libraries despite the declining user visits to physical libraries and how to maintain users through delivery of services that reflect their unique user demands. As such, there is a need to investigate Meru County university libraries in terms of their over reliance on traditional ways of packaging and disseminating information, weak library policy frameworks, capacity building among librarians and integration of complementary technologies to not only improve service delivery, but also enhance preparedness of libraries to the disruptive forces.

## **1.2 Statement of the Problem**

University libraries have over the years evolved from traditional to hybrid information centers and this have not only forced librarians to adapt responsive strategies to the changing environment, but have also necessitated parent institutions to allocate more

funds for continuous improvement of service delivery. The disruptive forces coupled with the changing user demands require libraries to develop unique capabilities for supporting the delivery of quality teaching, learning and research. This shift further require librarians to develop competencies in handling emergent technologies, dissemination of information, scholarly communication and strategy formulation.

Moreover, CUE standards and guidelines demands University Libraries to be responsive to the changes by modernizing infrastructure and technology, embracing innovating service provision and hiring qualified personnel (CUE, 2019). This allows for timely responsiveness to disruptive forces that are driven by socio-cultural changes, technological advancements, increasing change in user preferences, need for higher academic collaboration and demand for mobile supportive learning environments (Duncan, 2022; Seal, 2015).

However, despite the aforementioned situation and guidelines, the university libraries' responsiveness to the disruptive forces is wanting. Allen and Taylor (2017) postulate that libraries in Africa including the ones in Kenya are dealing with emergent changes in the information provision using outdated methods and are either slow or unable to respond to the current user information needs and behaviors. This implies that researchers will continue gaining insufficient information, which in the long run, will hinder them to discover knowledge for solving emerging problems in education and social-economic sectors. Further, despite the well-structured policies for the adoption of new methods and procedures for running library operations, the overreliance on conventional ways and mechanisms usually stifle innovation and creativity, which to a greater extent lowers the level of responsiveness.

The low state of responsiveness is evidenced by moderate use and utilization of technology among users, diminished avenues of cooperation, inadequate or unsustainable capacity building initiatives and poor or weak resource sharing initiatives (Dali et al., 2020). The measures undertaken by librarians to respond to pressure emanating from these forces are not clear. Failure to analyze disruptive forces and provide practical responsive solutions implies that libraries' value contribution to training, education scholarship and research will continue to dwindle.

Several past studies such as Kunene and Mapulanga (2021), Kwanya (2017), Mwinyimbegu (2019), and Nzioka, (2018) have investigated various aspects such as lack of staff morale, poor leadership, budget constraints and technological challenges leading to slow adoption of adaptive mechanisms by libraries in response to disruptive forces. However, these researches neither articulated on how university libraries should respond to various disruptive forces nor recommended specific measures that are required. It is against this research gap that this study aimed to examine technologies used, cooperation pursued, capacity building initiatives, resource sharing initiatives put in place and determine the extent to which they inform the strategic responsiveness measures adopted by librarians at university libraries in Meru County.

### **1.3 Purpose of the study**

The purpose of the study was to analyze the responsiveness by librarians to disruptive forces affecting university libraries in Meru County with a view to providing best measures/practices on how they can successfully re-align libraries with the new frontier.

#### **1.4 Research Objectives**

- i. To determine the technology responsive measures adopted by university libraries in Meru County.
- ii. To examine cooperation initiatives measures pursued by university libraries in Meru County.
- iii. To assess nature of capacity building programs pursued by university libraries in Meru County.
- iv. To examine the resource sharing initiatives pursued by university libraries in Meru County.

#### **1.5 Research Questions**

- i. Which technology responsive measures have university libraries in Meru County adopted?
- ii. What cooperative initiatives are university libraries in Meru County pursuing?
- iii. What capacity building programs are university libraries in Meru County pursuing in response to disruptive forces?
- iv. Which resource sharing initiatives are university libraries in Meru County pursuing?

#### **1.6 Justification of the study**

The study was prompted by emergence of disruptive forces that aims to change the way business is carried out in the university libraries. The realization and positive response by university libraries promotes cost cutting, maximizes diverse access and promote user satisfaction as well as enabling environment for more innovation and creativity. For instance, a well-established university library with powerful personnel that can come up with effective structures, processes and create networks to promote quality and affordable access of information, provides a foundation for coping with emergent

disruptive forces. The effort by the university library personnel also form lasting partnerships to facilitate social capital and idea sharing.

Okunlaya (2022) laments that failure to monitor and evaluate the emerging disruptive forces and introduce best practices, university libraries will lack directions and continue to operate on weak policies and regulations that fail to address problems of a 21<sup>st</sup> century knowledge seeker.

### **1.7 Significance of the study**

The study is relevant in both theoretical and practical aspects. Practically, the study has a direct relevancy to librarians in realizing their potential and improve their work competences, bring practices and activities that respond positively to disruptive forces and also define library policies and framework that are up to date with the present and future information environment. The library management also is informed on areas to adjust in capacity building programs, partnerships to pursue and resource sharing initiatives to exploit. It will be knowledgeable on the kind of personnel needed while recruitment and make adjustment on job descriptions of the existing personnel. Heads of university libraries will also benchmark for best practices that support, cooperation initiatives, teaching, learning and library management leadership.

Further, with the realization and implementation of the findings the faculty through the help of librarians will train, educate and manage information science students more effectively while equipping them with knowledge and skills that are relevant in the market.

Additionally, the government of Kenya through the Commission for University Education, other regulatory bodies and other policy makers will come up with policies that enhance best practices in the university libraries as well as CUE finding the study



useful when evaluating and accrediting universities. Theoretically, the study contributes to additional new knowledge nature of responsiveness for disruptive forces, also act as a baseline for more exploration in future research.

### **1.8 Scope of the study**

The study covered two accredited universities; Kenya Methodist University and Meru University of Science and Technology, where university librarians and head of sections of these universities were sampled. Since disruptive forces are influenced by multiple factors, the delimiting elements of this study was to examine the technology responsive measures, cooperation pursued, nature of capacity building programs and resource sharing initiatives adopted by librarians in universities of Meru County, Kenya. Aspects not covered in the study include the impact of university libraries in responding to disruptions such as technological advancements, budgetary constraints, environmental factors and changes in customer demands.

The study also excluded junior librarians, students, teaching and other non-teaching staff due to the fact that they are not involved in crafting university library strategies.

### **1.9 Limitation of the Study**

These are unexpected occurrences that affect the results of the study and the researcher's capability of controlling them is limited (White & McBurney, 2013). One of the main limitations of the study was that the researcher used qualitative research approach that rely heavily on the researcher's own interpretation of the data, which can be subject to bias. To mitigate this, the researcher developed a plan to assess the accuracy of the researcher's interpretation by using additional sources of evidence, such as expert reviews or peer-reviewed publications. Additionally, the study lacked

longitudinal approach due to time and cost constraints given that responsiveness of emerging disruptive forces takes time and keep on changing.

### **1.10 Assumptions of the study**

The researcher assumed that KeMU library and MUST library face disruptions from various forces which altered and continue to alter their daily work processes and also the respondents would cooperate and give a tangible information that would be relevant to the study. Another assumption is that the respondents understand their library environment and all the processes and procedures that take place as well as having a common understanding of the questions posed to them.

### **1.11 Definitions of Terms**

**Capacity building-** Activities and programs directed at strengthening the skills, competencies, processes and resources that university libraries need to survive, adapt, and thrive in a changing environment. Capacity building activities can include training, mentoring, organizational development, and knowledge sharing.

**Collaboration-** It's a systematic way an information professional use to reach out to different stakeholders for idea exchange, resource sharing and form a lasting connection to agree on the way forward.

**Disruptive forces-** Emerging activities that are meant to bring transformation change in the library.

**Information Communication Technology environment-** It the use of computer, information systems and soft wares to deliver services and perform library processes.

**Information Professional-** It's a well- equipped personnel in-terms of training and experience in the area of information expertise and is able to create, acquire, store,

disseminate, train information seekers and repackage information to information users in a timely, comprehensive and completeness.

**Librarians** - Information professionals whose duty is to support learning, teaching and research in universities by creating, storing, representing, disseminating and providing access of information resources and services; through swift collaboration measures, use of current information systems and offering information literacy skills.

**Post -modern library-** This is a library building that is accessed physically and virtually with complex information materials that are availed to users using different mechanisms. It's also able to accommodate users of all race, age, ethnic group, sex and those that are abled differently.

**Modern Library Users-** A person with unique information needs and seeking a knowledge hub with modern technologies to satisfy these information needs.

**Resource sharing-** involves the cooperative exchange of materials, such as books, journals, databases, and other library resources, between two or more libraries. In the modern library environment, resource sharing is often done through technology such as Interlibrary Loan (ILL) systems and shared catalogs.

**Responsiveness-** Librarians positively embracing change in a prompt way

**Technological trends-** its modern way a librarian interact with client using ICT based infrastructure.

**User information needs-** These are library users who has identified a gap between information and knowledge and are set to fill this gap by seeking relevant information.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews previously published empirical works by researchers, practitioners and scholars on librarians' responsiveness to disruptive forces to establish an in depth understanding of the phenomena. The chapter also presents theories anchoring the study. The chapter further outlines the conceptual framework and description of variables.

#### **2.2 The Concept of Strategic Responsiveness in University Libraries**

A crucial step in achieving positive change is strategic responsiveness, which modifies both the existing situation and users' perceptions. Based on the study by Nzioka (2018) strategic responsiveness to disruptive forces in university libraries is defined as a way to alter the normal way of working and promptly applying best practices that are in line with library environmental changes for continued relevancy.

Librarians' responsiveness can also mean initiating activities to overcome seen and unseen hindrances (Adekoya & Fasae, 2021). The study by Nzioka (2018) further argues that even though certain operating procedures have always been done in a certain way, chances are high that these practices might become obsolete within a period of time if not well reviewed to address the changes and needs of users. It is important for university libraries to continually revisit their knowledge and skills, personal core competences, education and experience and re-align them in such a way that they can still play their key role even in the emergence of technology and other developing trends.

Allen and Taylor (2017) argue that the modern-day librarians should be aware on ways to reach out to users virtually, exercise effective communication and be familiar with open avenues put in place for cooperation and partnerships. The authors also note that librarians should know how to diversely create knowledge from users' contributions, find affordable and relevant information materials and invent ways to ensure information is reaching out to users far and wide. According to Chakraborty and Brahma (2018), university libraries have over the years responded to new ways of delivering quality and accessible information through innovative technologies. Atanda (2021) highlights that a responsible librarian searches for ideas and support from negotiations and communications by different stakeholders.

Barik and Jeni (2019) argues that librarians' response to challenges and opportunities has a significant economic benefit to university libraries. This is witnessed through the optimal resource usage and improved cost efficiency. The use of different integrated systems and resource sharing across learning environment has indicated lower cost of operation as compared to the tradition processes. Duncan (2021) pointed that optimized use of library online platform saves users' time and allow self-reliance. According to Bakare and Bakare (2021), the drive to increased subscriptions of electronic resources is attributed to greater user satisfaction thus increased reputation and students' enrollment. Furthermore, extensive collaborations between private and public stakeholders on aspects of training, policy formulations and education advances guarantee stability, promotes high level of professionalism and enforce quality standards among beneficiaries (Kwanya, 2017).

A university librarian who can deliver excellency is nurtured in four dimensions; education, training, experience and personal core competencies (Musangi et al., 2018). In education and training dimensions, the relevant courses are those in line with

computer infrastructure to successfully apply tools and technologies such as; web design, database creation and management, indexing, metadata and information analysis to improve on information retrieval, system installation and maintenance skills, basic knowledge on computer applications such micro soft word, excel and PowerPoint presentation preparations (Nzioka, 2018). More so, other experiences are paramount; such experiences are on how to manage and organize university library, writing of reports, proposals for grants, developing manuals and users' guides, publications, creating partnerships and alliances and making critical decisions on various issues (Chakraborty & Brahma, 2018).

In addition, personal competences contribute to effective communication, negotiating confidently and persuasively, employing a team approach, demonstrating personal career planning, respect and value diversity, taking calculated risks, thinking creatively and innovatively, remaining flexible and positive in a continued change as well as balancing work, family and community obligations (Jule, 2018). According to Adekoya and Fasae (2021), these skills need persistence mentoring and coaching, positive attitude and the willingness of an individual to grow through peer dialogues, attending courses, seminars, workshops and conferences in information age. Although the core of the profession remains the same according to Warraich and Rorissa (2022), the methods and tools for information delivery together with the scope in the university library environment will continue to grow and change gradually. While maintaining their client and content centered- approach, librarians increasingly require advanced knowledge of information technology to realize their full potential. Gul and Bano (2019) observes that continually emerging opportunities will propel the prepared information professionals into yet unseen realms of advanced information retrieval, interpretation, synthesis, development and virtual services on a global scale.

Cox et al. (2018) affirms that effective education and training for librarians' influences information professional's curriculum designs and content creation, adequate infrastructure to facilitate trainings is highly considered, attending seminar, workshops, and adjustments in policy frameworks. The authors also add that consistency and commitment on a personal level is key in all aspects. Bakare and Bakare (2021) further states that the initiative has implications on costs, management and personal support.

The librarians' responsiveness to disruptive forces is global concern. In USA, academic libraries support the library environment by hiring qualified staff, channeling more funds to the university libraries and pulling digital infrastructure together. The libraries also promote development of appropriate policies to deal with issues such as staffing, communication trends, budgeting, privacy and data protection. According to Harris (2017), use of smartphone environment, interrelation in scholarly publishing, hyper connectivity, restructuring of library space, user expectations and user behavior are some of the most disruptive forces in recent years. Identifying and capturing these modern trends is a critical task to drive the society towards information enrichment. Tackling these pertinent issues according to Price et al. (2021) creates an opportunity for librarians to not only improve old practices but also maintaining relevancy. Harris (2017) further states that a modern-day librarian has shifted from being a dispenser of books and other information materials to exercising teacher/ trainer role. This is also a way of responding to the disruptions witnessed over time.

In Jamaica, a study was carried out focusing on Caribbean libraries to examine awareness and action taken from academic libraries on emerging issues. The study sampled 19 out of 31 targeted respondents. Participants who were members of College Libraries Information Network (COLINET) were allowed to participate in the survey. Findings showed the presence of large gap in digital literacy skills. Recommendations

highlighted were the need to put up more technological infrastructure in university libraries and provide avenues for digital learning to library staff. However, the study failed to explain clearly on what happens to libraries that had no membership in COLINET, yet disruptive forces were experienced across all libraries. This study did not discriminate members based on professional membership.

A study conducted in Pakistan to explore the attempts made by librarians towards enhancing technological competencies in 21st century (Shah, 2022) noted that, the use of technology, for example, in integrating library services with management systems and also coming up with ICT based reporting systems create a better environment for managing library resources and services. The study showed that the reliance of technology expanded online library benefaction, increased virtual reference services and broadened engagements of users through social media platforms. According to Harris (2017) librarians using online methods to expedite their services reach out to more users as compared to those users served physically. The study showed some of the readjustments to curb technology darkness include initiating informational literacy skills, ICT skills and digital literacy skills to all university librarians. However, Shah (2022) pointed out that technology was not the only method that librarians apply to respond to the disruptive forces. Therefore, there was a need for the researcher to investigate other methods. This study examined cooperation pursued, capacity building programs put in place and resource sharing initiatives for in depth understanding and comprehensiveness.

Regionally, librarians' responsiveness to disruptive forces is not a new phenomenon. Oladokun et al. (2021) reported that librarians' responsiveness to disruptive forces is not a new thing in Botswana academic libraries. In their study, they sampled 188 librarians from all universities in Botswana with the view to assess the professional



competences academic libraries continue to pursue for individual and institutional development. The study confirms that librarian's core competencies continue to change as new trends, plans and strategies emerge. The findings further showed that most university librarians were sharpening their knowledge and skills in several dimensions. These were; attending group trainings and self-trainings, participating in peer training, attending workshops, seminars and conferences conducted internally by the institutions or externally conducted by other stakeholders, through blogging, taking part time classes or online discussions and training postgraduate courses as key practitioners.

The respondents, however, indicated that effective support to attend seminars, workshops, conferences and advancing in education from their institutions was diminishing due to lack of financial resources. Regardless, the study by Oladokun et al. (2021) only focused on all librarians and did not seek to collect information from library management who are key informants. This study therefore highlights a gap in the scope of the respondents of which the current study has put into consideration for holistic comprehension in finding out core strategies for successful responsiveness to disruptive forces.

Findings by Mwinyimbegu (2019) affirms that professional advances and the perceived usefulness of planned strategies and processes from the top library managers are major predictors of successful responsiveness to disruptive forces in university of Dar es salaam, Tanzania. These findings are backed up by Acanit (2016) in their study to examine similar situation and the potentiality of librarians' responsiveness in Uganda. Their inference was that top library managers have high likelihood of realigning strategies that reflects their expectations. Although these studies were conducted in different countries, there was a need to localize the study and examine technologies used, corporations pursued, capacity building programs put in place and resource

sharing initiatives and analyze their influence in strategic responsiveness in universities in Meru County, Kenya.

Locally, the subject of librarians' responsiveness to disruptive forces has also been investigated. A study was carried out by Kwanya et al. (2020) to investigate the emerging role of 21<sup>st</sup> century librarians in an attempt to respond to disruptive forces. The study targeted sample size of 67 head of section librarians where one librarian was sampled from each private and public universities in Kenya. The findings from the study stated that continuous professional development to a greater extent positioned them towards responding positively with the changing environment. It also gave them a chance to find innovative approaches in sourcing and maintaining information resources and services. Kwanya (2020) also argues that research and legal related aspects of information are other emerging roles librarians should put into consideration. However, the findings cited slow adaptation to changes, resistance to change, ignorance, lack of technical proficiency and being over independent as part of the factors constraining successful responsiveness by librarians to disruptive forces. Cherinet (2018) recommends programs to improve librarians' awareness and preparedness to disruptive forces. Jule (2017) also is of the view that share ability culture should be embraced to enhance collection and improve in ideas sharing. The current study will major more of qualitative data for thematic analysis and verbatim narrations from senior library management team to understand more on their responsiveness in dealing with disruptive forces unlike Kwanya et al. (2020) study that focused more on quantitative data.

A study conducted by Musangi et al. (2019) in Kenya on critical success factors in reengineering libraries, targeted 30 librarians from 6 selected universities in Kenya. The findings from the study observed that even though librarians understood their roles in

reengineering libraries, there was management laxity in dealing with disruptive forces by university library heads lacking commitment, teamwork, recruitment of competence professionals' and poor decision making in infrastructure sourcing. The study recommends on the need to have a clear plan and strategically analyze critical factors that successfully contribute to changing environment. Cherinet (2018) further suggest integration of blended skills, knowledge and expertise such as collaborative work environment and invention capabilities. Musangi et al. (2019) failed to capture resource sharing aspect and capacity building to derive an in-depth investigation and discussion. Therefore, the current study majors on the aforementioned to critically examine the extent they have influenced librarians' responsiveness.

There is inconsistency in the studies highlighted, it is clear that university librarians have not yet fully embraced and responded to disruptions to improve on information delivery to esteemed customers (Harris, 2017; Kwanya, 2020). It is also noted that not all disruptive forces have been explored and analyzed to eradicate unfairness and inconsistencies seen in university libraries. In Meru County, disruptive forces strategies and best practices to deal with disruptive forces remain unknown. This study filled the existing gap by scrutinizing disruptive forces affecting university libraries and analyze strategic responsiveness by university librarians in Meru County, Kenya.

### **2.3 Technologies Responsive Measures and Strategic Responsiveness in University Libraries**

Information Communication Technologies have dominated human livelihood and advanced science improve their wellbeing and promote economic growth as well as social progress. The digital era has speeded location, use and creation of information. Information Communication Technology refers to the digital technology used to automate library services for easy flow of services and timely reporting. It is applicable

in the event of creating, acquisition, storing, presenting, access and dissemination of information to users.

Dali et al. (2020) posits that the digital environment has improved collection acquisition and management of information resources. Hervieux and Tumon (2018) argue that the existence of technology has increased diversification of teaching, learning, research and promoted innovativeness in university students. It is believed that the university library exists to support the mother institution to drive the key mandate in fulfilling its goals and objectives and in order to do so, librarians position themselves in managing, preserving, disseminating and promoting information materials to users. The use and utilization of digital platforms by university students is characterized by level of education, experience of using information communication technologies and attitude towards technology (Dali et al., 2020).

Bakare and Bakare (2021) further outlines that users who benefit the most from electronic learning resources are those who experience time and space constraints during their study. As informed by Farooq et al. (2016) study, technology advancements promote library efficiency which to a greater extent influences organization performance. Farooq et al. (2016) posit that the ability of a library to invest more on technology add value through fostering a culture of learning by motivating students in pursuing and applying knowledge. Consequently, the use of technology to promote virtual library trainings that save on cost and time as compared to face-to-face trainings kicked off over the past years. However, to successfully engage users in the university libraries, librarians must keep up with the speed of growing technologies by having core technical competences of installation of soft wares, operating information systems, using basic computer programs such as micro soft word, power point presentations and

micro soft excel as well as basic knowledge on computer hardware (Mwinyimbegu, 2019).

Nesta (2019) argues that librarians are capable of leveraging utilization of information materials provided to the increasing university population through various mechanisms. The levels of usage according to Patrickson and Newman (2017) is influenced by Library's collection, maintenance, organization and service delivery modalities. Mwinyimbegu (2019) is of the view that an information society is achieved through conducting heavily investments in emerging technologies and trends. These activities are well performed with affordable and sufficient internet connectivity.

Globally, there are several studies that have investigated how technologies influence librarians' responsiveness such as Shah (2022), Warraich and Rorissa (2020), Baro et al. (2019) and Kubat (2017). The study by Warraich and Rorissa (2020) investigated the level of technology integration in successful performing library services in Pakistan universities. It noted that university libraries had made significant investment in computer infrastructure. There were adequate computers and other technological equipment's such as printers and laser scanners. According to Islam (2022), integration of library systems and information management softwares help in performing circulation, cataloguing, acquisition and serial control seamlessly. Handling a successful digital environment require effective internet connectivity, wireless access points and able digital librarians (Bakare & Bakare, 2021). Additionally, Jain (2017) posits that different tools and guides are used to access resources but advent of computers has made retrieval processes relatively easy. With computing technologies, university libraries can provide access to resources through online platforms and electronic media eliminating the need for users to be physically present in order to access learning materials.

In Warraich and Rorissa (2020) study, the finding indicated that technology was incorporated to enrich traditional procedures and processes, enhancing discovery of information and creating metadata set to diversify access and dissemination of information. However, university libraries in Pakistan faced several challenges such as lack of technology understanding by most library professionals', inconsistent working plan and standards to technology usage and slow process of implementing technologies in most of the university libraries. Recommendations highlighted in the study include consideration of timely implementation of technologies, establishing workable plans and standards for technology adaptation and fostering appropriate technological trainings and advocacy programs. This will increase technical knowhow and acceptability.

In USA, a closer investigation of literature was carried out by Abbas and Sidiqqe (2020) on application of ICTs by librarians in university libraries. The study incorporated 206 university librarians in Punjab as the respondents. The study revealed that the librarians were very competent in ICT application by demonstrating capabilities in different areas of library automation, networking, online communication and the creation of digital libraries. The findings further revealed that these universities were far ahead in achieving excellent service delivery and meeting the goals and objectives of their corresponding universities.

University libraries in Nigeria are faced with multiple challenges such as disruptive technologies, insufficient funding, human resource capacity and inadequate power supply among other challenges. This study is in accordance with a study conducted by (Omeluzo et al., 2017) in Nigeria. Atanda (2021) conducted a closely related study in the selected university libraries in Nigeria for the purpose to investigate librarians' perception and level of adaptability in exercising technological services. The study

sampled a population of 196 library professionals who were from 5 purposefully selected universities. The findings of the study postulated that internet services were mostly demanded in university libraries and power supply was the main challenge. This showed that there is slowness in learning by librarians and ineffectiveness in information provision and service delivery. Recommendations highlighted in the study was that in order to provide ambience environment for library to gain experience and skills in technological activities, there was a need for addition of bandwidth in the library and more investment in power supply infrastructure.

In Uganda, a case study was conducted to investigate how librarians speeded the spread of technology innovations to increase operation efficiency by Penolis and Adoma (2018). Questionnaires were distributed among 63 representatives' members of Uganda university library association. The study sought to investigate variables such as the extent to which Open-Source Integrated System is adopted by librarians, drivers, barriers and the level of satisfaction of adopted technologies. The findings indicated that there existed significant positivity in adopted open-source integrated systems and operation efficiency. The study added that librarians were impressed on the timely support, flexibility in use, affordability in maintenance of the open-source integrated systems. However, barriers such as slowness in implementation stage, lack of appropriate technical skills and lack of sufficient information technology infrastructure.

Successful implementation of technologies highly depends on technical proficiency of university librarians. In Egypt, Mansour (2017) investigated digital literacy skills among academic librarians. The sampled population was the librarians of South Valley University through a quantitative research survey method. The findings from the respondents revealed that the understanding of digital based processes and procedures such as use of output and input devices, software use and maintenance, use of

communication devices system development and maintenance was among the digital skills acquired by university librarians. Baro et al. (2019) and Owalabi et al. (2022) stressed that the ability of university library to create tech savvy librarians is through incorporating digital classes in information science curriculum, consistence training and development on digital skills, subscriptions of electronic databases, successful incorporation of new technologies at work stations and having library system regulations. Building on the same argument, Kubat (2017) view the foregoing argument as a motivating factor that foster learning among university librarians in the long run.

In Tanzania, Mwinyimbegu (2019) focused on selected Tanzania University library where questionnaires were distributed to librarians of different ranking and academic qualifications. The findings shows that librarians were aware of open education resources access. However, most of the librarians had never interacted with the platform. When asked the setbacks for not having a hands-on exposure of the aforementioned, the librarians argued that there was lack of policies on the use on open education resources. Recommendations of the study highlighted the need to include guidelines and policies on how to use open education resources.

Level of usage of electronic resources among undergraduate students according to a study conducted by (Natarajan, 2017) among students of Jimma University, Ethiopia shows that there is increasing pattern of electronic resource usage every year. This has been attributed to presence of basic ICT skills among users, information searching skills, and positive attitudes towards the use of e-resources. Credit goes to librarians who showed effort and support in overseeing subscription process, contributions in decision making and the will power to train and create awareness of the electronic resources. A study by Nagpal and Radhakrishnan (2022) reports that resources and capabilities required for converting information resources to online formats have



enhanced over time. This assertion has been agreed upon by Nzioka (2018) through the finding that databases hosting online electronic resources are increasing in number because they save space, enhance speed of communication, provide powerful searching tools, and provide immediate access. The reviewed studies bring out the importance of adopting ICT in learning institutions. However, the current study conducted the research from undergraduate students only. Giving this study a chance to duplicate the same study to university librarians for better results and more views.

In Kenya, a study carried out by Kwanya (2017) posit that the availability of technology is widespread and is characterized by the affordability of internet across all counties. In the event where internet accessible is at a low cost, (Jule, 2017) argues that the society is able to access information freely and this risks the librarians core mandate of information delivery and access. The diminishing of the librarians' role can also be as a result of having many young adults with tech savvy capabilities. Although, the librarian's relevancy still stands due to the fact that they have an existing relationship with faculty and students in creating awareness of the availed information resources and through conducting outreach services on the skills needed to navigate into various databases (Kwanya, 2017). Patrickson and Newman (2017) also reports that the traditional based libraries are slowly embracing change by integrating their activities with modern technologies for example the automation of the library services especially in use of KOHA, an open source software that promote effectiveness in circulation od services, cataloguing, accuracy in reporting and serial control. For, university library managers, the ICT acts as an enabler in evaluating the progress of library staff as well as measuring their performance. This keeps them on check so as to focus on achieving specific goals and implementing strategies sufficiently. In addition, the library

managers are able to be in the competitive edge of the new emerging trends without unnecessarily losing the competitive advantage.

Litsalia (2017) conducted a study in Nairobi County, Kenya sampling Tangaza University College librarians. The study sought to investigate variables such as ICT competency levels, ICT courses covered during trainings and in information professional curriculum. The finding of the study indicated that trainings majored on web technology maintenance rather than ICT technical skills. Further, courses offered were not extended to offer practical sections. Other highlights from the findings were that there existed a mismatch in ICT skills information professionals sought in class and the job demands. Based on the findings, Litsalia (2017) recommended incorporation of practical trainings both in curriculum and on job training, conducting of frequent ICT related trainings, seminars and workshops for librarians to remain informed. Other study by Acanit (2016) recommends mobilization of librarians through staff- on -job learning, mentoring and coaching schemes, in-house trainings and individual study to improve librarians' awareness and preparedness in the digital environment. The above studies brought out the importance of trainings in enhancing ICT application by librarians.

A closely related study conducted by Otike and Barati (2021) on emerging issues in academic libraries in Kenya was conducted. The study highlighted that advanced technology was the top most trend in all university libraries. The study recommended that university librarians should engage top management for support in adopting digital technologies and also foster positive attitude for easy diffusion of technology in library work processes. The study brings out the importance of technology as an emerging issue in academic libraries. Though the research had established findings based on

analysis other literature review, the current research focuses on conducting in depth study from university librarians in Meru County.

#### **2.4 Cooperation Pursued and Librarians' Responsiveness to Disruptive Forces**

Cooperation is the activity of pooling together as individuals, groups or organizations to develop a foundation for sharing activities, ideas and support towards improving the scope of available information resources and services (Madge, 2018). It is the process where libraries form linkages and associations to improve services delivery and diversify library collection through shared knowledge internationally, internally and regionally or locally (Onyancha, 2018). Many university libraries are faced with the tough economic times where budget for purchasing books and other information materials is minimal, affordability in subscriptions of electronic resources is beyond reach and diminished facilitations in sharing knowledge through workshops, seminars and conferences (Atiknson, 2019), hence the need to cooperate for cost-effectiveness.

According to Madge (2018), universities that have a cooperated scheme is the only blessing in disguise to overcome most of the setbacks realized over time. Chisita and Fombad (2020) argues that the provisions in the library are growing due to emergence of shared ability initiatives that provide seamless information flow regardless of limitations of university libraries information scope and diversified nature of user needs. Cooperation take different form in university libraries. For example, cooperation in collection development that focuses on collaborative acquisitions, centrally processing of information materials between university libraries and cooperative storage to save on space. Atikinshon (2019) also adds that faculties and research departments collaborate with university libraries to achieve a common understanding of relevant collection to purchase. All collaborative measures put in

place improve library collection regardless of limitation on budget and scope of information materials.

Successful collaborations set between faculty and libraries provide platform for promoting information literacy skills to students and also forming consultative grounds with lecturers in making enquiries of relevant information materials for purchase. According to Wajciechowska (2021), this initiative helps librarians to build collection that is of great value to scholars and researchers. Mwaniki (2017) emphasizes that corporations' development involves purposeful, planned, systematic and progressive improvements in university libraries. Well managed alliances help libraries develop appropriate networks that university scholars in the long run benefit by achieving better academic progress. Librarians also help faculty to assess and develop curriculum related to librarianship profession and additionally citing areas of improvement depending on job demands. The emergence of Information Communication Technologies has enhanced how different libraries collaborate (Madge, 2018). The promotion is made easy through social networks such as email system, blogs, acquisition through consortia, conducting the interlibrary loaning and partnering in cataloguing. However, according to Madge (2018), trust, honesty and the ability to fit in different skills and expertise makes the collaboration more vibrant and successful over the years. The concept of cooperation has gained popularity across the globe and many scholars have investigated various aspects of the same at various levels of learning (Atiknshon, 2019; Madge, 2018; Pinfield et al., 2017).

Cooperation initiatives play a critical role in improving universities academic libraries. In the study to investigate views on cooperation initiatives in Romanian universities academic libraries, (Madge, 2018) revealed that the respondents valued and to a greater extent relied on collaborative initiatives to expand their library collection. This was in

agreement with a study conducted by Mwaniki (2017) where respondents cited that the best fulfilling cooperation, they valued is between IT professionals and librarians. They cited this kind of cooperation as highly beneficial for it support librarians to enhance digital access, preservation, storage, communication and ease in dissemination of information to users. The study by Madge (2018) used qualitative data analysis and received responses from 11 out of 15 senior librarians. However, the respondents felt that collaboration initiative were very minimal; 73% of the respondents perceived it as very low. Based on the findings, it is essential for the universities to develop more collaboration strategies. Madge (2018) study was done in Romanian university libraries. This gives the current study a chance to conduct a similar study in Kenyan university libraries and in particular, Meru County.

Collaboration initiatives are linked to enhanced service delivery by academic libraries. In Pakistan, a study was conducted to evaluate the extent to which academic libraries and faculty collaborate for mutual benefit and further establish the opportunities and barriers they experienced for future collaboration initiatives (Maalik & Ameen, 2018). The study sampled 17 faculty members from library and information science department. The study highlighted that the extent to which faculty members related with librarians was minimal despite them being aware of the benefits earned through collaborations. Among the benefits for collaborating were: faculty having a better understanding on course content to offer in different programs, engagements in curriculum revision, collaborated efforts on trainings between faculty and library professionals mainly when libraries accommodate students on internship, collaboration in resource sharing among others. A study by Maalik and Ameen (2018) argued that challenges such as lack of morale to pool information resources and human resource capacity together, lack of good leadership, time consuming procedures and lack of

formally structured policies to guide on collaborations as the main hindrances for collaboration between faculties and library department. The study recommended the need for faculties and libraries to establish policies for guidance in collaboration, both entities to launch trainings workshops and seminars to market graduate skills and sensitizing both groups on the important of collaborations. The study brings out the importance of collaborations in promoting academic libraries. The views derived from Maalik and Ameen (2018) were analyzed from data provided by faculty members of library and information science. This gives the current study a chance to examine library professional of university libraries on the similar aspect.

Collaboration contributes improved quality of library resources. Through an investigation conducted in university of Botswana library between library educators and library staff by Jain (2017), the respondents were of the view that collaboration was a major determinant for improved quality of library resources. Finding also cited that lack of good leadership and lack of organization stability as a significant impediment to effective alliances in Botswana academic libraries. The reviewed literature by Chisita and Dick (2017) and Imam (2022) has also highlighted gaps in the lack of good visionary leadership skills, different attitudes, disparities in methods of communication, stereotyping in the current dynamic library environment and resistance to change. Such is the basis of the recommendation that university libraries need to establish collaborative and dynamic collaborative programs to guarantee relevancy and sense of usefulness among users. The study was confined to discussing issues of collaborations only between library educators and library staff, prompting the current study to also examine other internal and external collaboration initiatives.

Collaborative initiatives are critical in accessing funding to support university libraries. In South Africa, a study was conducted by Bangani and Tshetsha (2018) to establish a

better understanding of collaborations between public university libraries. The study posits that the current university libraries have to a greater extent strengthened the acquisition of electronic resources through consortia, made collaborative initiatives in other funding benefits and also in research work. However, the study cited that lack of financial support, technical aspects to enhance collaborations further as major challenges university libraries struggle with. Moreover Alabi (2018) pointed out that the existing organization cultures, legal aspects and different ways of communication forces instability in pursuing collaborations between institutions. Thus, the inference by Bangani and Tshetsha (2018) that the current library environment is a key hindrance to flexible collaborations, hence the recommendation for strengthening the initiatives between librarians is libraries leaders to initiate formal commitment, dedication and serious effort upon partnering with other stakeholders. Jain (2017) summarized the argument by having 3Ps; people involvement, processes initiations and procedure establishment. Such strategies diversify the ability of leaders coming together to have a common understanding on collaboration issues. The study by Bangani and Tshetsha (2018) was carried out in public university libraries prompting the current study to conduct the study from both private and public university libraries.

An investigation by Musangi et al. (2019) in six selected public and private university libraries in Kenya identified frustrations among librarians because they did not pay keen attention on working together as a team rather, they worked individually and there was no structured program to form lasting relationships with key stakeholders to improve sharing and transferring of knowledge among university libraries. This is attributed to a lack of competent library staff, inappropriate IT infrastructure, less support from top management and a lack of proper planning. The common studies relating to Kenya indicates that networking initiatives, sharing of resources and transferring knowledge

in university libraries lack flexibility and consistency and primarily relies on intellectual isolation (Kwanya, 2017; Onyancha, 2018; Musangi et al., 2019).

Cooperation is linked to excellency in universities. Koigi et al. (2018) carried out research in Kenya on 12 accredited universities to a total of 277 management staff to establish the quality of corporations pursued and their influences in achieving excellency. The study emphasized that effective cooperation led to increased understanding of university critical areas of in curriculum development, research output and standards. This is as a result of having shared experiences, awaken synergies and the strengthening of weak areas. According to Madge (2018) such progress help in achieving competitive advantage of a company. The study further noted that organizations relating with stakeholders of different taste and preference helps the organization understand the interests and preferences thus modifying products and services to meet these needs. Further, the study highlighted that most universities are ignorant in making lasting relationships with different stakeholders. Universities should therefore, invest more in partnerships and encouraged to create awareness where necessary to managers on the importance of having a cooperative coordination with different stakeholders.

## **2.5 Capacity Building Programs and Librarian Responsiveness in University Libraries**

Capacity building program in university libraries is the ability to combine human resource development, manpower capabilities professional and staff personal development for continuous improvement, promotion of lifelong learning, growth and forecast in the changing modern era of libraries (Oguche et al., 2017). It entails having a mechanism for training to increase librarians' knowledge and capacity to use modern tools and technologies, the knowhow in providing structures to offer support and



knowledge in implementing procedures and processes required to enrich learning environment (Chakraborty et al., 2018). Oguiche et al. (2017) discusses trainings in two forms; the training done while work is in progress and training done outside the work place. Kwanya (2017) argues that a competent staff is a confident being who can execute assigned duties with a lot of vigor and strength. Oguiche et al. (2017) findings also indicate that the development of internship programs for a short period training among new library professionals determine the quality of manpower development in the long run.

Kwanya (2017) observed that proficiencies on various aspects of responsiveness such as website design, web publishing, web hosting, information search and retrieval capabilities, operational knowledge of library management systems such as KOHA and RFID, good communication skills, presentation and management skills are successfully conducted by capable librarians in university libraries. Ahmad et al. (2017) shares the same standpoint that capacity building enlightens librarians to achieve competency in fulfilling the vision and mission of university libraries. These sentiments were backed up by adding that quality output in workforce and performance of library staff is compounded by attitude, continuous pursuit of education, knowledge, skills and ability to give logical ideas. Training being at the center point of capacity building, promotes mastery of technology and work processes. According to Musangi (2019), attending training conferences either in person or online builds one intellectual capacity and even further promotes networking. Moreover, Edewor (2020) emphasizes that building capacity to librarians begins immediately an individual enrolls for librarianship course. Numerous studies Streatfield and Markless (2019), Yoon and Donaldson (2019), Adekoya and Fasae (2020), Edewor, (2020) have been conducted in different countries to investigate the nature of capacity building programs at various levels in university

libraries. However, little research has been conducted to map capacity building programs and librarians' responsiveness in university libraries.

Trainings on new technologies is fundamental in enhancing librarians' capacity. In South Asia, a study was conducted to investigate the progress done in the national library of Maldives on capacitating librarians with right knowledge and skills through trainings (Jayasuriya, 2021). The findings of the study were that respondents received trainings mainly on new technologies. There was need for procurement of facilitative technologies for trainings that expose staff to learning technologies to increase their familiarity and comfort. Though, the trainings lacked sufficient supervisions. The study by Jayasuriya (2021) did not relate the training programs as a disruptive force and it majored on getting findings from national libraries. The current study investigates trainings programs relating to librarians' responsiveness and gather findings from university libraries.

A closely related study was conducted in Sweden, investigating on assessment of libraries new roles conducted in trainings to assist librarians cope with increasing demands of the users (Haglund et al., 2018). The study revealed that the existence of intensive training programs had numerous objectives to achieve positive training outcome. There was incorporation of technical guidance, a lot of mentorships and coaching to raise morale of library staff. In the same study, it was argued that librarians needed continuous political, legal and financial awareness so that they can understand a wider enabling environment for increased productivity. The study is backed up by Adekoya and Fasae (2021) who posit that mentoring young professionals help them gain self – confidence, yield work role efficiency and achieve career advances. According to the studies, capacity building programs such as training, coaching and

mentorship could be essential in enhancing librarian responsiveness to disruptive forces.

A study conducted in universities of Assam, India, by Chakraborty et al. (2018) in six public and private universities revealed that capacity building programs have successfully impacted efficiency and proactive delivery of services by 83%. The study further indicated that the training programs contributed to developing multi-skilled professions and more teamwork was realized among library staff. However, interview responses indicated that most of trainings were scheduled odd time when less participants were available, scheduling regular trainings was recommended, they also suggested that conducting need assessment, funding and conducting trainings in nearby location promoted proper training practices. Based on the study findings, capacity building programs can be attributed to efficiency in delivery of services.

A study conducted in Europe Audunson and Shuva (2016) concluded that investing in human resource in the university libraries requires updated information resources, encouragement to emulate high professionalism and consistent updating of curriculum to impact skills that are in line with new trends. According to Audunson and Shuva (2016), capacity building provide basic knowledge to improve communication skills, logical skills, time management skills and computer literacy. Further, In European academic and research libraries, the government has invested in regular and short courses training programs such as course era and massive online open course (MOOC) that are facilitated through online and fully funded in an attempt to increase uptake of knowledge and skills among the librarians of European countries while increasing their quality of lifelong learning (Ayrís & Ignat, 2018). This initiative is made possible in developed countries due to the fact that they have stable systems of governance on all institutions. Therefore, it may not be practical in developing nations such as Kenya, as

they are struggling with basic essentials leaving limited resources for other developments.

In Africa, Edewor (2020) conducted a closely related study to investigate success and impediments of conducting a vibrant professional training for Nigeria higher institutions. The study sampled a group of 453 respondents who had attended workshops between year 2016 to 2018. The findings from the study revealed that lack of support discouraged librarians from attending and participating in professional training programs, symposiums, seminars and financial constraints as the main course of delayed support. Further, Obasola et al. (2014) while interviewing four librarians in Kenya concluded that universities are poorly embracing capacity building opportunities due to lack of properly structured trainings, busy schedules by librarians and lack of personal interest. Ashiq and Warraich (2022) in their study have reported that library staff who do not take capacity building programs into consideration lack capacity in technical skills and other computer related skills such as database management, use of Boolean search engine, online messaging services and installation of softwares and applications. Edewor (2020) study cited recommendation such as having well-trained resource personnel, financial support, disseminating training modules, having excellent training techniques and availability of practical materials as major determinants of promoting effectiveness in building capacity in among university librarians. The implication is that support through capacity building is essential promoting librarians' responsiveness to disruptive forces.

Professional development through career enhancement is important to librarians. In Ghana, a closely related study was conducted to investigate the extent to which librarians valued continuation of professional development through career enhancement (Dzandza & Akussah, 2018). The study was conducted in 25 private

universities and sampled 61 library staff and 20 had of libraries though administering questionnaires and conducting interviews. According to the findings by Dzandza and Akussah (2018), librarians regarded career development as very helpful in equipping them with more updated knowledge and skills related to technology advances, managerial and leadership skills. Majority (90%) of the respondents were willing to re-enroll in school and attain more education. However, financial resources limited them not to take up classes promptly. Recommendation from the study were university library management to come up with other less costly measures to equip their library staff with knowledge and skills. Such measures include in-house trainings and peer to peer education. The implication is that lack of financial resources hinders capacity building of the librarians, which could negatively affect their responsiveness to disruptive forces.

Career development among university librarians is critical in achieving efficiency. In a similar study conducted in Botswana by Oladokun et al. (2021) the study sought to investigate the level of career development among university librarians in four libraries. The findings from the study indicate that all librarians working in the each of the four institutions had either diploma, degree, masters or PhD. This revealed that the employers of these libraries valued the library profession. The respondents further indicated that when given a chance, they were willing to progress on further studies or enroll in short professional courses for them to improve on how they responded to various disruptive forces. A similar study can be conducted in Kenya specifically, Meru County. The findings bring out the importance of academic qualification in promoting librarians' responsiveness to disruptive forces.

The training needs of library staff cannot be underestimated. In Kenya, a study was conducted to investigate training needs in library staff of public university libraries

(Ondari, 2000). Well trained professionals are able to maintain their capabilities at work place while gaining new knowledge to propel their service delivery. According to Sang et al. (2022), the level of trained professionals also determines their innovativeness. Ondari (2000) study revealed that library professionals admitted that they needed more training on how to exercise communication skills, how to self-manage themselves and how to revamp team spirit among themselves. The findings of the study were also consistent with those of Kavulya (2007) who had carried out research to determine the relationship between trained staff and service delivery from various stakeholders of library and information science. The study revealed that there was a positive relationship between trained library staff and service delivery. The findings bring out the importance of training in promoting librarians' responsiveness to disruptive forces. ICT trainings are vital in achieving quality-of-service delivery. In a closely related study conducted by Rotich (2021) to investigate the ICT training effect on quality-of-service delivery, the findings revealed that insufficient trainings were the main variables affecting quality of service delivery among library and information science professionals. The aspect of ICT training for staff improves their skills and expertise towards automation, management of integrated library systems, software installation and maintenance. Rotich (2021) study recommended review of library and information science curriculum to incorporate more ICT related courses, university librarians to conduct benchmarking in well ICT equipped university libraries for more learning and engagement and encouragement young librarians to specialize in becoming more of system librarians. The results bring out the importance of ICT training in enhancing librarians' responsiveness to disruptive forces.

There are various challenges that affect implementation of library education. A study was conducted in Kenya to investigate on challenges faced on implementing library

education (Monica & Harrison, 2016). Literature survey approach was used as the methodology and questionnaires distributed to four founding schools of library and information science education. Inadequate teaching resources, mismatch of course content offered with the job market and insufficient internship opportunities were highlighted. Monica and Harrison (2016) study recommended addition of more resources both physical and human resource, establishment of more collaborations with different stakeholders for internship opportunities and offering of quality programs that match with job market this in turn improve librarians' competencies and increase their capability in responsiveness of disruptive forces in library environment. According to the findings, university libraries face challenges such as lack of adequate resources, which could hinder librarians' responsiveness to disruptive forces.

## **2.6 Resource Sharing Initiatives and Librarians Responsiveness in University Libraries**

To improve librarians' ability to respond to disruptive influences, some participating libraries share library resources among themselves on the basis of cooperation. The process of sharing resources takes different forms; interlibrary loaning of resources across libraries, subscriptions of electronic resources via library consortia and open access initiatives (Chisita & Fombad, 2020). Sharing of information resources has multiple benefits to university libraries including facilitating positive responsiveness to librarians, reducing duplication of effort, cost cutting and gaining quality in service delivery. Factors that cause university libraries to embrace resource sharing initiatives are; inadequacy of provision of wide range of resources, expensive nature of information resources, evidence of shrinking budget, the urge to keep up with the voluminous production of information, disparities in resources distribution,

unavailability of certain resources locally and diverse interests and information needs of users (Chisita & Fombad, 2020; Munson et al., 2016; Saarti & Tuominen, 2019).

Eugene (2021) argues that sharing of library resource also involves sharing technological infrastructure and expertise of qualified personnel, for example, Combine Arm Research Libraries (CARL) spearheaded sharing of technological based resources in North America by forming Networking Resource Sharing (NRS). The largest resource sharing platform developed by Online Catalogue Library of Congress (OCLC) in North America facilitated unified cataloguing globally. Trending resource sharing initiative focuses exclusively on open access content, Institution repositories and library consortia. In the recent years, University libraries engaged in open access initiatives to make scholarly research and writing more accessible to the public. These initiatives make scholarly materials available online for free, or at least at a reduced cost. Some well-known open access initiatives include the Public Library of Science (PLOS) and the Directory of Open Access Journal (DOAJ).

Resource sharing takes place in the library management level where the head of library sections and chief university librarian take up the role. According to Chisita and Fombad (2020), the process of sharing information resources has taken a new direction with the emergence of technology. Chisita and Fombad (2020) argue that using technology to share library resources facilitate timely response, accuracy, effectiveness in communication, fast tracking of resources shared and creation of different platform for repackaging of information resources.

Resource sharing initiatives are common are global level. Studies have been conducted on various resource sharing initiatives that have influenced librarians' responsiveness (Saarti & Touminen, 2019; Saarti & Touminen, 2021; Thomson et al., 2021; Sang &



Wamukoya; 2022). Saarti and Touminen (2021) conducted research in Finland to examine resource sharing trends. The study revealed that there shifts on how resource sharing was conducted from the traditional interlibrary loaning to peer-to-peer resource sharing by use of social platform. The study derived data from 13 Finnish university libraries webpage statistics. According to Saarti and Touminen (2021), the effectiveness of peer-to-peer resource sharing is measured by the quality of digitization of library services and rise of academic social networks such as academic.edu and researchgate. From the study, Saart and Touminen (2021) advocate for system enhancement and more subscriptions of electronic resources for user satisfaction and effective use of technologies. The implication is that peer-to-peer resource sharing is critical in enhancing librarians' responsiveness to disruptive forces. The study is relevant to the current study though it relied on data from the usage statistics derived on the library web pages. The researcher can enhance the finding by sampling a population of university librarians in Meru County to establish consistency.

Globally, interlibrary loaning is one the common resource sharing initiatives. Calhaob (2017) did different research in USA to carry out an investigation on ways in which American University of Beirut (AUB) Libraries shared resources. The analysis discovered that most of the libraries conducted interlibrary loaning by acquiring membership in consortium of American International Liberal Arts Institutions (AMICAL). Basically, libraries that had joined the consortium were working closely to loan information materials free of charge. Calhaob (2017) study indicated that the process of loaning materials maximized access to resources. However, in some cases during loaning process, (Calhaob, 2017) argued that the loaned items took too long to reach the designated location. In other cases, some users didn't show up to pick the requested information materials after loaning from other information centers. To

address this difficulty, AMICAL came up with a strategy to modernize the process. This initiative was put in place for smooth running of the processes and improvement in accessibility of information resources. The implication is that interlibrary loaning as a method of sharing resources is essential in promoting librarians' responsiveness to disruptive forces. Calhaob (2017) study focused more on interlibrary loaning services in general. The current study conducted in-depth research on other resource sharing initiatives in Meru County.

University librarians are actively participating in resource sharing networking services to enrich library collection and serve customers effectively. Dattatraya (2018) explored librarians' contribution to resource sharing networks. This was from a survey conducted in January to December of the year 2014 from Agricultural College Libraries in India. The study aimed to explore librarians' contribution to resource sharing networks. The study findings also discovered that there was more gain in libraries sharing resources than losses. Dattatraya (2018) further indicated that technology speeded the process of resource sharing. In a similar study by Stapel (2018) studies, the recommendations were that librarians to enhance their systems to improve resource sharing initiatives. The implication is that resource sharing initiatives are essential in promoting librarians' responsiveness to disruptive forces. Dattatraya (2018) studies omitted recommendations to sum up the study. This gave the current study a chance to provide workable recommendations once findings are derived from the study.

In the case of African countries, University libraries are increasingly sourcing for networks locally, regionally and internationally to share resources. Orumah and Baro (2021) stressed that no library that can work independently and survive in the era of information explosion. A study conducted by Bangani et al. (2017) to analyze interlibrary loaning services in South Africa revealed that in order to improve resource

sharing capabilities for effective responsiveness by librarians, libraries need support from top authorities. Bangani et al. (2017) study further highlighted that libraries must be willing to review license agreements and provide feedback to vendors on time. This would facilitate timely response to meet customers' needs. The above studies emphasized the importance of resource sharing among libraries, which could promote librarians' responsiveness to disruptive forces.

Resource sharing has taken a new paradigm in Zimbabwe. This is according to the study conducted by Chisita and Fombad (2020). The study sampled 32 participants from ten academic libraries in Zimbabwe using qualitative research design. The aim of the study was to examine how libraries have positioned themselves to enhance collaborative resource sharing. Zimbabwe academic libraries operate by receiving support of two consortia namely; Zimbabwe University Library Consortium (ZULC) and the College and Research Libraries Consortium (CARLC) (Machimbidza & Mutula, 2019). The study further revealed that libraries pooling resources through a consortia ease subscription of electronic. Consortia also facilitate sharing of knowledge through seminars, workshops and conferences. This collaborative nature has help academic libraries in Zimbabwe to overcome challenges (Machimbidza & Mutula, 2019). The implication is that resource sharing initiatives including seminars, workshops and conferences are central in enhancing librarians' responsiveness to disruptive forces.

To improve the accessibility and visibility of intellectual works worldwide, the majority of universities have made large investments in institution repositories. A study was conducted in Nigeria to investigate how institution intellectual output in managed to foster growth in resource sharing (Orumah & Baro, 2021). The study revealed that most of the universities have significantly invested in institution repositories (IR) to increase access and visibility of scholarly materials globally. The study collected the data

through a survey research method from 25 university libraries in Nigeria. The growth of Institutional repositories according to Orumah and Baro (2021), increased by 14.7%. The most published materials were master's thesis, PhD dissertations and journal articles (Orumah & Baro, 2021). The study further argued that publishing content in IR not only increased dissemination of information but also minimized damage of the original material. However, the study revealed that lack of clearly defined policies, unstable internet connectivity, lack of skilled personnel and copyright issues were the most top challenges in IR implementation. Machimbidza and Mutula (2019) recommended that clear policies to be put in place, increase of library bandwidth and training of staff on digitization would help institutions to grow their IR. The study findings pointed to the importance of sharing information through institution repositories.

Initiatives by library consortia improve service delivery, which is attributable to elements like clearly defined policies. Resource sharing initiatives has significantly improved through networked collaborations done by Kenya Library and Information Science Consortium (KLSC). Most of the libraries also have joined Kenya Education Network Trust (KENET) to spearhead sharing of technological infrastructure. A study was conducted to examine library consortia initiatives that influenced resource sharing in University of Nairobi (Eugene, 2022). Library consortia initiatives increase service delivery and this is attributed to some of the factors such as clearly defined policies among others. According to Eugene (2022), policy creation and implementation is determined by staff competencies and understanding of work processes. The study recommends creation of a policy guidelines that define the scope of resource sharing and the technologies that support resource sharing initiatives for university libraries to correspond with CUE standards and guidelines. The implication is that clear policy on

resource sharing is central in enhancing librarians' responsiveness to disruptive forces. Eugene (2022) study was based in Nairobi County. This gave the current study a chance to be conducted in Meru County.

University libraries are confronted with problems with their digital library infrastructure and with the management of their electronic resources. A closely related case study was conducted in Laikipia County to investigate on the sustainability of delivered electronic information resources to academic libraries through a consortium (Kimanga, 2018). The research used both qualitative and quantitative method to collect data from 23 library staff and 237 Laikipia university postgraduate students respectively. The findings of the study revealed that Laikipia University Library faced issues related to digital library infrastructure and poor governance in administering of electronic resources through KLISC. The study by Kimanga (2018) recommend that the digital library infrastructure to be enhanced through having user friendly interfaces that one can easily navigate and search. The study also recommends that there need to put up a vibrant steering committee to monitor and evaluate resources shared and participate in decision making processes. The implication is that digital library infrastructure and good governance are critical in promoting librarians' responsiveness to disruptive forces. The study conducted by Kimanga (2018) did a general investigation on consortia and electronic resources prompting this study to conduct an in-depth study of resource sharing initiatives that influence librarians' responsiveness.

## **2.7 Theoretical Framework**

This study is guided by a combination of Technology Organization Environment Model (TOE) and the organization theory.

### **2.7.1 Technology Organization Environment Model (TOE)**

The TOE model was first developed by sociologist Robert K. Merton published in 1990 and posit that continuous improvement in technological adoption improve innovativeness in overall business objectives. According to Mouakket and Aboelmaged (2021), organizations create an active environment and find relevancy through application of technological factors for successful contribution to internal and external processes. The technological organization environment model is a framework that can be used to analyze an organization's technological environment. The model has undergone several theoretical developments since its introduction and (Baker, 2011) presents the model in four main components: The technology strategy that defines organization's overall approach to technology and sets priorities for technology investments, the technology capabilities component describes the organization's current technical capabilities and identify gaps, technology infrastructure component outlines the organization's technical infrastructure, including; hardware, software, networking, and data storage and the technology applications component that includes a description of the organization's current technology applications and how they support business goals. The model also provides a way to identify and prioritize technology investments, and to track progress over time.

Disruptive technologies are part of innovations that support university library processes by creating realistic, complex, and relevant technological environment where librarians can collaborate, engage in social negotiation and conduct analysis from diverse standpoints. Technology strategy as a component of TOE model defines organization's overall approach to technology and sets priorities for technology investments. The model argument aligns with the disruptive technologies concept that emphasizes the

adoption of technologies and innovations that support university library processes. The TOE model, therefore underpins the disruptive technologies variable in this study.

Cooperation is the activity of pooling together as individuals, groups or organizations to develop a foundation for sharing activities, ideas, and support towards improving the scope of available information resources and services. Technology applications as a component of TOE model includes a description of the organization's current technology applications and how they support business goals. The model argument aligns with the cooperation concept that emphasizes the importance of stakeholders working together to support librarians' responsiveness to disruptive forces. TOE model, therefore underpins cooperation variable.

Capacity building program entails having a mechanism for training to increase librarians' knowledge and capacity to use modern tools and technologies, the knowhow in providing structures to offer support and knowledge in implementing procedures and processes required to enrich learning environment. Technology capabilities as a component of TOE model describes the organization's current technical capabilities. The model argument aligns with the capacity building program concept that emphasizes the importance of capacity building through improving the capabilities of librarians. TOE model, therefore underpins capacity building program variable.

To improve librarians' ability to respond to disruptive influences, some participating libraries share library resources among themselves on the basis of cooperation. The process of sharing resources takes different forms; interlibrary loaning of resources across libraries, subscriptions of electronic resources via library consortia and open access initiatives. Technology infrastructure as a component of TOE model outlines the organization's technical infrastructure, including; hardware, software, networking, and

data storage. The model argument aligns with the resource sharing resources concept that emphasizes the importance of sharing library resources through various initiatives. TOE model, therefore underpins resource sharing initiatives variable.

The TOE model has, however, been criticized for its lack of predictive power and for its reliance on a linear view of technology adoption (Majid, 2009). Additionally, the TOE does not account for the role of organizational culture in shaping technology adoption. Since the research cannot ignore these limitations, the theory therefore examined in library environments so that it can be effective.

### **2.7.2 Organization Theory**

The organizational theory is based on the constructs by Frederick Taylor and Max Weber in 1917 and 1947 respectively (Peltonen, 2016). According to this theory, organizations are complex and operate through coordination of dynamic, simultaneous, multirole and multilevel processes. They work to ensure that organizations have the capacity to identify common themes with an intention of maximizing productivity and efficiency, solving problems, and sufficing determinate needs imposed by stakeholders (Peltonen, 2016; Schunk, 2012).

Strategic responsiveness to disruptive forces in university libraries is a way to alter the normal way of working and promptly applying best practices that are in line with library environmental changes for continued relevancy. Success of librarians' responsiveness to disruptive forces is grounded on existence of effective management structures and proper organization to supporting library operations and presence of an environment that promotes specialization and training. According to Bush (2015), organization theory presents university libraries with a rational approach for developing effective administrative structures and right capacity required for successful responsiveness to



disruptive forces. The organization theory, therefore, underpins strategic responsiveness variable.

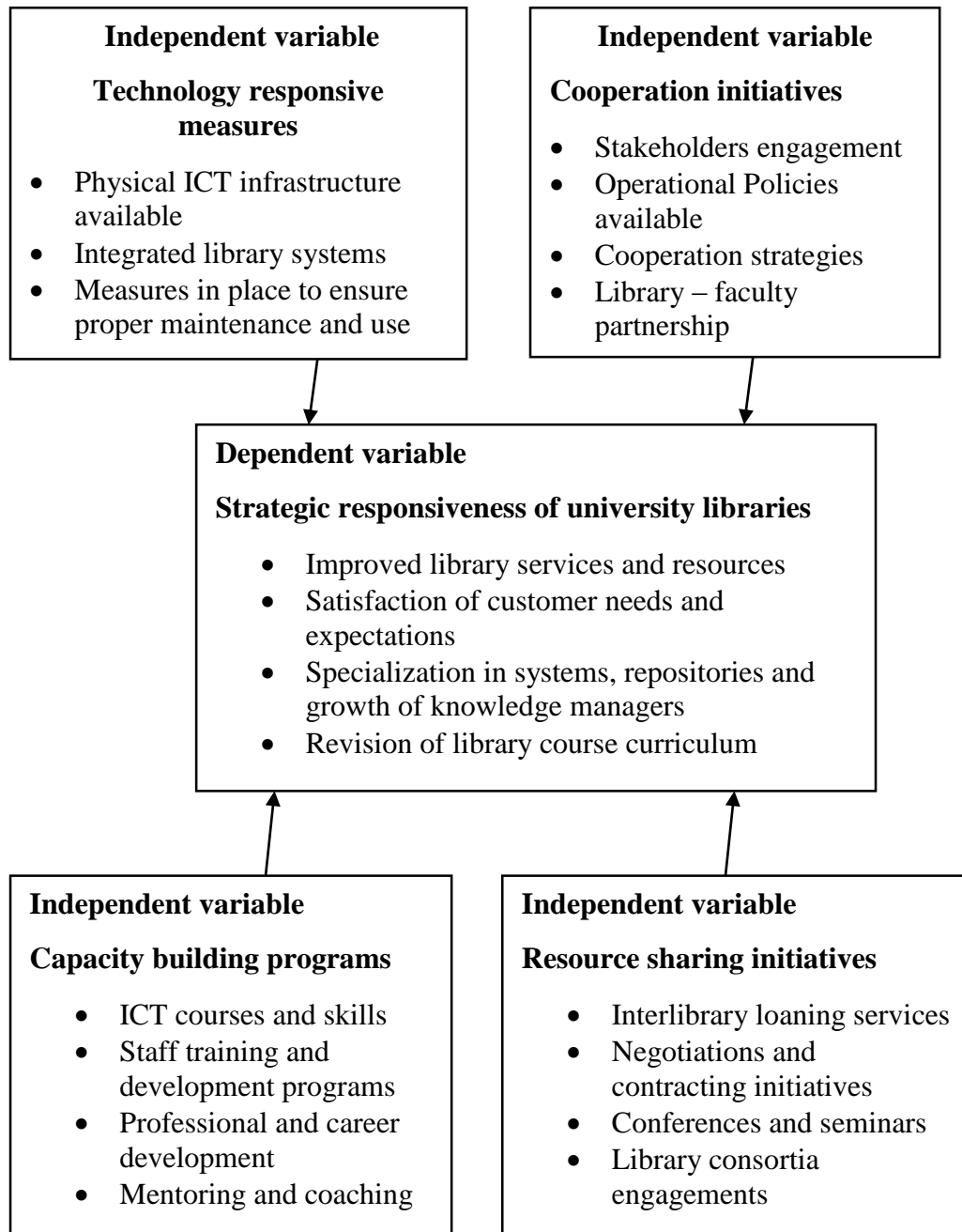
Peltonen (2016), however, cites the unrealistic nature of organizational theory as its main weakness because it is difficult for actual organizations to implement its constructs and succeed. Hence the recommendation that university libraries to implement components that work in practice and disregard the rest because this theory was not developed to create ideal organizations.

## **2.8 Conceptual Framework**

A conceptual framework is a system of ideas, assumptions, and beliefs used to guide research and inform decision-making (Bryman, 2012). It is used to organize and define the relationships among variables and to explain the behavior of a phenomenon. In this study, the independent variables touch on technologies responsive measures, cooperation initiatives, capacity building programs and resource sharing initiatives. A dependent variable according to Cresswell (2014) is a variable that is manipulated by the researcher in an experiment, in order to observe the effect it has on a dependent variable. In this study, the dependent variable is strategic responsiveness of libraries. Figure 2.1 shows these variables and their indicators.

**Figure 2.1**

*Conceptual Framework*



### **2.8.1 Description of variables in the Conceptual Framework**

Figure 2.1 posit that technology responsive measures, cooperation initiatives, capacity building programs and resource sharing initiatives are the independent variables believed to influence university libraries responsiveness to disruptive forces in Meru County, Kenya.

Technology responsive measures is about technological infrastructure required to facilitate effective responsiveness in the university libraries. Measurement of this variable involves determining the availability of physical ICT infrastructure for smooth running of library processes, integrated library systems and measures in place to ensure proper maintenance and use.

In this study, cooperation initiatives refer to capabilities of library senior management to exercise expertise in the field of public-private partnership in university libraries to enhance quality of service delivery. It was qualified by examining how university libraries have engaged different stakeholders', integrated policies frameworks relating to cooperation initiatives put in place and whether there are existing strategies to support university library corporations and how library – faculty partnership has spearheaded the development of library curriculum for librarians' profession.

Capacity building programs is about the library staff capabilities and competences. Measure of this variable involve determining the level of ICT skills and knowledge to be able to respond to technological based emergent trends. Other factors constitute staff training and development programs, amount of support for professional and career development (level of education qualifications, study leave and sponsorships), mentoring and coaching for better leadership and staff motivation.

Resource sharing initiatives is the potentiality of promoting coordinated development and deployment of interoperable solutions that leverage strategic responsiveness of libraries through inter library loaning services, negotiation and contracting, conducting conferences and seminars to share knowledge/ experiences and engagements of library consortia.

Strategic responsiveness of library forms the dependent variable in the study and this is measured by the success or failure of disruptive technologies in the library, nature of cooperation initiatives pursued, effectiveness of capacity building programs and resource sharing initiatives in university libraries in Meru County.

Strategic responsiveness of libraries was evidenced by improved library services and resources, Satisfaction of customer needs and expectations, Specialization in systems, repositories and growth of knowledge managers and Revision of library course curriculum.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses the methods used to organize the study and highlight the procedure involved in collecting data, data analysis, and presentation. It also covers the location of the study, research design, target population, sampling techniques, the sample size, and the data collection procedures. The applied research instrumentation including the methods used to guarantee validity and reliability are also covered in the chapter. Finally, the chapter discusses data analysis and presentation methods that was used followed by ethical considerations.

#### **3.2 Location of Study**

This study was conducted in two university libraries in Meru County; KeMU and Meru University are two of the leading universities in Meru County, Kenya. KeMU, formally known as Kenya Methodist University, is the first private university in the region and has been ranked among the best universities in Kenya due to its focus on quality education and research. Meru University, formerly known as Meru University College of Science and Technology, is also a leading educational institution in the region. Both universities offer a variety of courses and degree programs in fields ranging from Business, Technology, Medicine and Nursing to Agriculture, Arts and Social Sciences. Together, they provide students with a comprehensive set of educational opportunities and resources. KeMU and Meru University have strong links to the local business and industry to ensure their students are well-equipped to take part in the global economy. Both universities have excellent research facilities and have invested in their own libraries to ensure students have access to the latest academic materials. The libraries also provide access to a variety of online resources and journals, making them ideal

learning and research centers. KeMU and Meru Universities also have strong links to other universities across the region, allowing students to take part in exchange programs and international collaborations. This helps to foster a global outlook.

Additionally, the site of the study was chosen due to the fact that KeMU and MUST university libraries have the potential to engage in responding to technological changes, engaging in cooperative measures, implementing capacity building programs, and sharing resources due to the presence of a well-developed university library system. This provides an ideal setting to study the effectiveness of these initiatives in improving library services. Also, the university libraries are quite diverse, with a wide range of users, which allows for an analysis of the effectiveness of these initiatives across different contexts. Finally, the university libraries are well-resourced, providing a level of stability in terms of financial support and resources that are necessary to study these initiatives.

### **3.3 Research Design**

According to White and McBurney (2013), a research design refers to the structure in which a study is organized. The research design is tailored to the specific research question(s) being addressed and provide a clear path to obtaining the desired results.

This study was purely qualitative and therefore, researcher adopted qualitative approach where survey research design which was exploratory in nature was utilized. According to Creswell (2014) a survey research design with a qualitative approach typically involves gathering data from a small sample of participants through semi-structured interviews or focus groups. The aim is to gain an in-depth understanding of the participants' experiences, opinions, and beliefs.

### 3.4 Target Population

Target population is the group of individuals that a researcher wishes to draw conclusions about based on the results of the study (White & McBurney, 2013). This group can be defined in many different ways, such as by age, gender, location, or other factors. In this study, the unit of analysis was KeMU and MUST university libraries and the unit of observation was 15 university library staff, specifically, 2 university library heads and 13 heads of library section as shown in table 3.1.

**Table 3.1**

*Target population*

University		Head Library		Head sections	
		Target	Sampled	Target	Sampled
Kenya	Methodist university	1	1	5	5
Meru	University of Science and Technology	1	1	8	8
Total		2	2	13	13

These 15-library staff were used as unit of observation because of their participation in management level and the responsive role they play when dealing with library disruptive forces. The university librarians develop strategies, policies and frameworks as well as making critical decisions that drive university libraries, and therefore their views regarding disruptive technologies, corporations pursued/ to pursue, capacity

building programs and resource sharing initiatives informed this study on best practices to adopt in current and future university libraries. Library section heads are consulted when strategies and policies are developed. They also conduct need analysis, evaluate the progress and effectiveness of strategies put in place and suggest areas of improvement when library technology is being sought, corporations initiative put in place, as well as programs to adopt in building capacity of library staff and engagement in resource sharing initiatives.

### **3.5 Sampling Techniques**

Sampling technique is a procedure used to select a sample of individuals from a population to conduct research on (Bryman, 2012). It involves a selection process in which a subset of the population is chosen to represent the entire population. The purpose of sampling is to obtain information about a population that is too large or too diverse to study in its entirety. Sampling can be used to compare different populations, to compare different aspects of a single population, or to measure the accuracy of a survey or other research method (Tufford & Newman, 2010). The sampling technique for this study was purposive sampling. According to Bryman (2012), purposive sampling is a non-probability technique in which the researcher chooses participants for the sample based on specific criteria in order to best answer the research question.

The researcher included potential participants who were university librarians and library section heads in their sampling technique because of their expertise or experience with the research topic as advised by Etikan and Bala, (2017); Sutton and Austin (2015). These individuals are in positions of authority and have a deeper understanding of library operations, which makes them more knowledgeable on the subject. Additionally, they have access to resources and data that may be useful in the



research process. By including these individuals in the sample, the researcher gained more accurate and reliable data.

### **3.6 Sample Size**

The size of a sample depends on a variety of factors, including the type of data being collected, the population being sampled, the desired accuracy of the results, and the sampling method being used. The size of a sample is the number of observations in a given population or sample that is used to draw conclusions about the entire population (Mugenda, 2008).

All the universities in Meru County were considered in this study. Since the university librarians and library head of sections of these universities were few, all of them were taken by census to participate. This was done as advised by Bryman (2012) that when choosing all members in a sample size when the population is small, it provides the most comprehensive, accurate, and statistically valid results. Also, eliminates any potential bias or sampling error and ensures the results are representative of the population as a whole.

### **3.7 Research Instrumentation**

In this study, the research instruments included interviews schedules for the university librarians, document analysis for their library and Focus Group Discussions (FDGs) for the library section heads.

#### **3.7.1 Interview Schedule**

An interview schedule is a plan or agenda that outlines the topics and questions to be discussed in an interview (Pulla & Carter, 2018). The study interviewed university librarians for the two universities; KeMU and MUST. The questions in the interview schedule were open ended, based on literature reviewed and conceptual framework. Six

sections were scheduled as follows; 1. Respondents' personal profile; 2. University libraries responsiveness to disruptive forces; 3. Technology responsive measures and the university libraries responsiveness in Meru county; 4. What cooperative initiatives pursued and the university libraries responsiveness in Meru County; 5. University libraries capacity building programs and responsiveness to disruptive forces in Meru County; 6; Resource sharing initiatives pursued in response to university libraries disruptive forces in Meru County. Appendix 11 shows the interview schedule for this category of respondents.

### **3.7.2 Document Analysis**

Document analysis involves looking at the content, structure, and form of the document in order to gain insights into the way the document was created and used. This type of research is useful for understanding the historical context of an event, exploring how different people interpret the same material, and for uncovering hidden meanings in texts (Oliveira et al., 2018). University library annual reports, policy frameworks, subscription details, Calendar of events, university library procurement plan, library strategic plan all of the past 12 months were determined for the needed information. Appendix III shows the document analysis guide for this study.

### **3.7.3 Focus Group Discussions**

Focus group discussion allows the researcher to explore the topic with a group of the selected participants and gain a better understanding of how the group perceives and experiences the topic in question as advised by (Prasad & Garcia, 2017). This study conducted FGDs to library heads of sections in each university library under investigation. The two conducted FGDs included 5 and 7 participants in KeMU and MUST respectively. Appendix IV shows the guide that was used for the 13-library head of sections FGDs as advised by (Ikiara, 2018).

### **3.8 Pretesting of Research Instrument**

Pretesting of research instrument before collecting the actual data help the researcher identify any potential problems with the instrument, such as unclear questions or biased language and make necessary revision. Recommended sample for pretesting of instruments for collecting data is a small group of people that are representative of the population one plan to survey or study, this is according to Prasad and Garcia (2017). Prasad and Garcia (2017) recommend a sample of 1 to 10 percent. This study adopted a sample of 10 percent and therefore 1 Chuka university librarians and 2 library section heads were used to pretest the research instruments with a purpose of ensuring the validity and reliability of the research tools. It was selected basing on its status as a university library and meeting the satisfaction inclusion criteria. Specifically, the university librarian and the library head of sections were interviewed, documents analyzed and focus group discussions formed for the aforementioned participants.

### **3.9 Validity of research instruments**

According to White and McBurney (2013), the validity of a research instrument refers to its ability to accurately measure what it is intended to measure. According to Bryman (2012), a research instrument must be reliable for it to be valid, meaning that it's able to produces consistent results when used on different people or occasions. To ensure validity, researchers should conduct pilot tests of the instrument and analyze the results. Additionally, they should use established scales and measures when creating the instrument and ensure that the questions are relevant to the research topic.

This study used the content validity of interview schedule, document analysis and FDG. The content validity (extent to which research instruments ensure that they cover the full range of content in the domain being measured) was realized through engagement with the supervisor to review the items on the measure to determine if they are

appropriate for the intended purpose. The more relevant items on the measure, the higher the content validity as advised by Heale and Twycross (2015). Areas that seem ambiguous to respondents, or the ones identified as inadequate in measuring the determined items on the measure were either corrected or discarded in their entirety.

Construct validity assesses the theoretical soundness of a research study (Bryman, 2012). It was determined by the researcher assessing the correlation between the results in regard to university library responsiveness and the underlying theoretical construct. For construct validity, the tools were explained clearly to the respondents before writing so that data given by respondent is complete, concise and clear. For instance, when the researcher identifies any incomplete data in the event of conducting interviews, the researcher read out and explained clearly before inputting data.

### **3.10 Reliability of Research Instruments**

The reliability of research instruments is determined by how well they measure the same thing consistently over time. This can be determined through 4 types of reliability according to Tufford and Newman (2010), namely; internal consistency (used to assess the consistency of results when using the same instrument with the same population at different points in time), inter rater/observers (used to assess the consistency of results when using the same instrument with different raters/observers, test-retest (used to assess the consistency of results when using the same instrument with the same population at different points in time) and alternate form (used to assess the consistency of results when using two different instruments with the same population).

For this study, reliability of interview schedule, document analysis and FDG was measured by making interview schedule clear and concise with the same questions reflecting the objectives. The alignment of the questions used same format and

sequence of words for each of the respondents. Documentary checklist was also used to check on the same aspect for each university library; University library annual reports, policy frameworks, subscription details, Calendar of events, library strategic plan. FDG questions were also well reviewed before the actual engagement with the respondents.

### **3.11 Data Collection Procedure**

Data collection procedures involve the gathering of information from a variety of sources and in multiple formats that the researcher uses. In the current study, the researcher printed and packaged interview schedules, document checklists and FGD guides needed in data collection exercise. The researcher then booked an appointment with the respondents and agreed on the appropriate time for the data collection exercise.

To mitigate biasness, the researcher treated all librarians with respect and dignity regardless of their background, created a safe and inclusive environment for all the respondents to feel comfortable and willing to share their knowledge and insights. Also, the researcher avoided any language or questions which could potentially lead to biased responses. Furthermore, any feedback or comments collected was taken into consideration and discussed by the respondents in a respectful and professional manner. Additionally, in order to ensure that all librarians were getting the same opportunity to provide feedback, the researcher embraced focus groups discussions (by establishing clear and consistent criteria for data collection, such as having all participants answer the same questions in the same way). Moreover, the data collected was analyzed in a holistic way, taking into account any potential biases or other factors which could be influencing the responses.

### **3.11.1 Procedure for Conducting Interview**

The researcher obtained permission from the university librarians in order to conduct the interviews, which was done over two days. For the purpose of anonymity, university librarians were randomly given letters 1 and 2. After this, the researcher used a phone recorder to tape the interviews and take notes of important issues as a backup. In addition, a document analysis exercise was conducted in order to gain further information. Finally, the researcher adhered to the budget provided in the work plan (appendix V).

### **3.11.2 Procedure for Conducting Document Analysis**

The researcher analyzed documents from each university library after carrying out interviews with the university librarians. These documents included annual reports, policy frameworks, university procurement plan, subscription details, calendar of events and the library's strategic plan.

The researcher then used the independent variables to analyze the documents. Technology responsive measures was assessed by looking at the library's technology infrastructure and the extent to which it is adequately maintained. Library co-operations pursued was measured by looking at the library's interactions with other libraries, universities, and partners in the community. Library staff capacity building programs was assessed by looking at the library's commitment to training and professional development opportunities for its staff. Resource sharing initiatives was evaluated by looking at the library's capacity for interlibrary loan services and its ability to provide access to a variety of resources.

The criteria for assessment of the documents is outlined in appendix III, and the researcher provided the necessary funds for the task, as shown in the work plan found in appendix V.

### **3.11.3 Procedure for Conducting Focus Group Discussions on Library Head of Sections**

The researcher conducted two-days focus group discussions (FGD) with the library section heads from each university library and the total number of focus group discussions were two (2 groups each from every university). The groups were randomized and coded with numbers FGD1 and FGD2 to keep the identities of the participants anonymous. The groups consisted of 5 to 12 members, as advised by (Thuba, 2018). After obtaining consent from the participants, the university librarian was asked to leave the room so that the participants feel free to express themselves. The FGD was moderated by the researcher, with a guide provided, and lasted for 60 minutes. The budget for the FGD was catered for by the researcher, as outlined in the work plan (appendix V).

### **3.12 Data Analysis and Presentation**

Data analysis is the process of transforming and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. This involves analyzing data to identify trends, patterns, relationships and presenting the results of the analysis in a clear and concise manner (Sutton & Austin, 2015). Data in most social sciences is gathered in both qualitative and quantitative in nature.

Qualitative data analysis typically involves the following steps: transcribing, coding, identifying themes, interpreting the data, and reporting the findings according to Atheru

(2021). In this study, Content analysis and thematic categorization were used to analyze and interpret data that was collected through the interviews, FGDs and document analysis. According to Creswell (2014), Content analysis is a research method used to identify and interpret patterns in written, audio, or visual content. This method involves collecting and analyzing data to identify themes and patterns within the content. Thematic analysis is a research method used to identify, interpret, and report themes within data (Creswell, 2014). This method involves coding data into distinct categories and then analyzing the data to interpret and report on the themes that emerge. Both content analysis and thematic analysis can be used to identify trends and patterns in written, audio, or visual content (Creswell, 2014). However, content analysis is used to identify patterns in the content itself, while thematic analysis is used to identify patterns in the meaning of the content (Creswell, 2014).

In this study, the researcher started by reading and organizing the data (field notes, survey responses) and identify themes and key concepts that emerge from the data as advised by Atheru (2021). This was done by keenly reading and listening to the interview several times until the researcher gains full understanding of the concept as per Tufford and Newman (2010) advice. Once the data was organized the researcher coded it according to the identified themes and concepts. Coding makes it easier to find key words, phrases and patterns of the data (Creswell, 2014). The researcher then analyzed the coded data by looking for correlations, trends, or common themes and drop themes and concepts that were found insubstantial as advised by Pietkiewicz and smith (2014). Finally, the researcher interpreted the results of the analysis following (Creswell, 2014) advise. This was achieved by thinking critically about the data and drawing conclusions, findings and recommendations that are supported by the data basing on the study objectives.



### **3.13 Ethical Considerations**

According to Bryman (2012), Research ethics is the set of principles, standards, and processes by which researchers conduct their work in an ethical manner. It includes the ethical principles that guide the researcher's behavior when conducting research, the ethical standards that must be met when conducting research, and the processes for ensuring that the ethical standards are met. It also includes the principles that guide the evaluation of the research and the dissemination of the results.

In this study, the researcher did not collect any data without obtaining authorized letter from KeMU and MUST, research permits from the National Council of Science and Technology (NACOSTI). The researcher purposed to secure informed consent from the respondents by sensitizing them on the purpose and nature of the study and during the interview sections only special codes were assigned to conceal their identity. Participation was purely on voluntary basis. However, the researcher tried to build a rapport with the informed consents in order to trigger them to conceal information and also try not to intrude in their personal time, lives and space while conducting the interview. They were assured that their identity would not be disclosed and the collected data was treated as confidential and it was only used for the study. The researcher also ensured that all sources in the study were acknowledged using APA guidelines and the research findings submitted to plagiarism check to ensure that the work pass the originality tests.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter provides presentation and discussion of the study results. It comprises of response rate, background information of the respondents and findings according to the study variables. The variables include technology responsive measures adopted by university libraries; cooperation initiatives measures pursued by university libraries; nature of capacity building programs pursued by university libraries; resource sharing initiatives pursued by university libraries; and strategic responsiveness of universities. Finally, a summary of the chapter is outlined at the end.

#### **4.2 Response Rate**

Out of the fifteen sampled respondents, two university librarians and twelve library heads of sections took part in this study. This contributed to a sample of 14(93%) response rate indicating that it was a successful approach. The high response rate success is attributed to researcher's use of both physical and online methods of data collection. This is important because it demonstrates the effectiveness of using multiple methods of data collection for qualitative research, as it can increase response rates significantly (Creswell, 2014).

##### **4.2.1 Respondents' Demographic Profile**

The researcher sought to understand the demographic characteristics of the respondents (University Librarians and Heads of Sections) in this section. The basic characteristics of the respondents was in three categories: Gender, level of education and library title. The findings are reported in Table 4.1.

**Table 4.1***Demographic information of the Respondents*

<b>Variable</b>	<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Gender	Male	6	43%
	Female	8	57%
Total		14	100
Level of Education	Degree	9	64%
	Masters	4	29%
	Doctorate	1	7%
Total		14	100
Library Title	University Librarian	2	14%
	Head of Sections	12	86%
Total		14	100

The findings in Table 4.1 shows that 6(43%) respondents were male and 8(57%) were female. Concerning the level of education, 9(64%) had a bachelor degree, 4(29%) had master's degree and 1(7%) had doctorate. The results also indicated that 2(14%) were university librarians and 12(86%) were heads of section librarians. These findings are similar to that of other international libraries. For example, a study of six academic libraries in Jordan revealed that 58,1 % of librarians were female and 41.9% were male (Albbi et al.,2018). The study also revealed that most librarians (86,2%) held undergraduate degrees, while 11,1% held master degrees and the remaining 2,7% held a doctorate degree. In addition, 40% of the librarians served as heads of libraries and 60% worked as section heads (Albbi et al., 2018).

From recent study, the high level of education coupled with the fact that respondents were librarians imply that researcher had adequate and reliable information on disruptive forces affecting libraries and strategic responsiveness of universities.

### **4.3 Technology Responsive Measures Adopted by University Libraries**

The study's first objective was to determine the technology responsive measures adopted by university libraries in Meru County. The key aspects that were of interest to this study were physical ICT infrastructure, integrated library systems and measures put in place to ensure proper maintenance and use. The data provided herein are from interviews with university librarians, FGDs by head of sections and document analysis.

#### **4.3.1 Findings from Librarians on Technology Responsive Measures adopted by University Libraries**

The librarians were asked to explain the technology-based measures university libraries have implemented to ensure their responsive to changing needs of students, faculty, and staff. According to the findings, university libraries have adopted several technology-based measures. These include remote access software, my loft software, anti-plagiarism software such as Turnitin, eBooks journals, and social media platforms such as WhatsApp. The findings imply that university library management has made efforts to incorporate technology in daily operations of the library. This is expected to enhance libraries' responsiveness to disruptive forces. The findings are similar to the assertion by Mwinymbegu (2019) that an information society is achieved through conducting heavily investments in emerging technologies and trends.

Users do not want to sit in the library they want to access the resources from wherever they are and this has compelled the university library to subscribe to a remote access software. The remote access software enables the student to access all the resources from outside. The university libraries that participated in the study also use my loft that enables mobile access to information resources. One librarian said,

*We have realized the modern user value mobile access to services, information and services. Therefore, my loft is one of application that enable library to offer services through mobile phones (Librarian 1).*

The above statement outlines the importance of modernizing library operations through adoption of technology-based measures such as my loft software. Additionally, due to increased need for quality, university library management has collaborated with the university management to subscribe to Turnitin, which is anti-plagiarism software. The software enables integrity check and this ensures that all the research works by students are checked for integrity. The findings corroborate the study by Farooq et al. (2016) that technology advances promote library efficiency which to a greater extent influences organization performance.

Another librarian remarked,

*We have a software for alerting researchers on new research opportunities. Then we open for them google scholar accounts to help them improve the visibility and we also run the journals on the background, so we have to be responsive (Librarian 2).*

The above statement communicates the role of technology-based measures adopted by university libraries. These measures are critical in enhancing libraries' service provision to stakeholders, specifically, students and faculty members.

The university librarians were asked to explain how the library ensures that the staff are keeping systems up-to-date with the latest security patches. From the responses given, it was clear that libraries are utilizing several ways in ensuring that systems are up to date. Some of the mechanisms noted included; library staff working closely with IT people, continuous update and upgrade of systems, system backups and CIA practices like clear disk policy. Librarian 2 Noted,

*“we are working closely with the IT people because they offer IT support. We liaise with the IT people for support whenever there's a new release because our staff are limited in terms of installing software” (Librarian 2)*

Another librarian reiterated as follows:

*We try to install the latest software, even now, we are going to be updating our KOHA to the latest version. We also change system passwords after every two weeks (Librarian 2)*

The librarians were asked to state how the library management and staff ensure digital infrastructure is maintained to ensure its ability to scale with growing usage. The findings indicated that digital infrastructure is maintained through staff training. Regular training of staff ensures that their skills are up-to date. However, this rarely happens due to limitation of finances. Additionally, systems are largely managed by the IT people to ensure backup.

One librarian remarked,

*When it comes to ICT, we transfer the risk to ICT by delegating the work of identifying and setting up the needed digital infrastructure, such as servers and server speed (Librarian 2).*

The librarians were asked to state how the library track technology-related changes in the environment. According to the findings, most of the software's have a vendor who inform the university library whenever there is a new release. There is also forum for librarians. Whenever a new technology has come, people share information about new changes. For example, there was a mention of artificial intelligence and how librarians need to be proactive because people are using artificial intelligence to cheat in terms of writing. Additionally, librarians and library staff keep on trying to find out what the best practices, what other institutions are doing, what people are publishing or what are the latest developments out there in the world. One librarian opined,

*We rarely get the opportunity for benchmarking visits, but we can still benefit from the knowledge shared by other institutions. To maximize our resources, we take time to explore the digital platforms, checking out the websites of highly ranked universities to see if there are any ideas we can use and adapt for our own program (Librarian 2).*

The librarians were asked to state how the library responds to technology-related changes in the environment. According to the findings, librarians respond to technology-related changes in various ways. These include proposal writing to the university management and trainings. One librarian remarked,

*Whenever there's a new technology and I would like to embrace it, I have to write proposal to what I call management paper convincing the management the need to migrate or the need to go to a new technology, convincing them by giving them facts and cases where it has been used (Librarian 1).*

The issue of training also featured in the responses. Librarian said that they conduct training to make sure the staff have learnt the new system because they are the ones involved in the execution of the new technology. Another librarian observed that,

*If it is something within reach, we just check what resources we need and then we go ahead and implement it. Fortunately, we have a very, supportive administration (Librarian 2)*

The librarians were requested to indicate the technological measures implemented to ensure library resources are accessible. According to the findings, the respondents observed that technologies such as remote access technology has enabled many users to access resources.

The librarians were asked to state the kind of trainings pursued to ensure that library staff are adequately trained in the use of technology. According to the findings, the type

of training depends on technology. For instance, if it is about Dspace, staff are trained about it. This implies that trainings are customized to specific technologies.

The librarians were asked to specify measures library had taken to ensure the long-term availability of digital content. The findings indicated that libraries have put in place several measures. To ensure continuity of services, good working relationships with IT personnel, DSpace servers, and a reliable maintenance system with daily backups are utilized. Additionally, libraries have adopted in-house trainings. One librarian said,

*For those kinds of trainings, not so frequent because of budgetary constraints but when we strongly justify, we are able to at least get one or a few of them. Once we learn it, we cascade it to the rest of the staff, mostly in-house training and smaller group trainings (Librarian 2)*

When asked about innovative solutions currently being implemented to improve library's technology capabilities among the library staff, the respondents mentioned CCTV installation, in-house trainings and collection development. The findings are consistent with the work of Dali et al. (2020) who posited that the digital environment has improved collection acquisition and management of information resources.

One librarian submitted,

*Currently we have finished implementing CCTV in one of our campuses, it is about security and it is critical in the library (Librarian 1)*

Another librarian reiterated as follows:

*In house training, when we have something, we do small scale piloting before we go ahead and train other staff gradually after which we delegate the work to them. Collection development is now at the center, it is a work that involves everybody, so if you're in e-resources section you are supposed to map the books in that area, and if you are in print collection, then you have to map for us the print books (Librarian 2)*

The librarians were asked to make suggestions to help university libraries improve technology responsive measures. The respondents suggested that it is essential to hire



the right system librarian who is outgoing and able to embrace new technologies in the library environment. Also, the librarians should have the required skills and be trained in the relevant areas more often. It is also important to develop staff skills so that they can stay aware of new developments in technology. Furthermore, the librarian should be familiar with modern solutions for library issues, such as artificial intelligence, and be able to come up with their own solutions. Finally, integrating databases and systems into the library environment is essential in order to provide a streamlined experience for users.

#### **4.3.2 Findings from Head of Sections on Technology Responsive Measures Adopted by University Libraries**

The library section heads were asked to state what standard guidelines should be considered when setting up new ICT infrastructure in the library. According to the findings, the respondents noted that the library management should consider the nature of patrons who visit the library, physical structure of the library; for example, the accessibility of some library parts by patrons with disability, cost of the ICT infrastructure, compatibility of the infrastructure with the library functions at each section of the library, changes in the user needs, ICT acquisition policy and adaptability of the technology.

The library section heads were asked to state challenges they face in maintaining the physical ICT infrastructure in the library. According to the findings, there is the challenge of old infrastructure, hanging computers, non-responsive ICT personnel and low internet bandwidth. There is also lack of trainings and budget constraints. The findings denote that university libraries experience numerous obstacles in maintaining ICT infrastructure, and this could hinder effective response to disruptive forces.

The library section heads were asked to suggest the maintenance plans that should be put in place to ensure the physical ICT infrastructure is working properly. According to the findings, there should be regular cleaning of computers, good engagement with ICT personnel and adequate CCTV cameras to enhance security.

The heads of sections were asked to explain how they keep abreast of the latest trends and developments in ICT infrastructure. The respondents noted collaboration and sharing information with other libraries and professionals in the field. Other strategies include meeting vendor requirements, conferences and seminars that focus on ICT infrastructure.

The library section heads were asked to specify challenges encountered when using ILS. The respondents noted little literacy, unsupportive features of the gadgets, information insecurity due to unreliable infrastructure and delayed support from vendors.

The library section heads were further asked to make suggestions on how to improve ILS. The recommendations included; acquisition of up to date and latest generation computers, training for staff and regular in-service technical trainings. Additionally, there should be a policy for maintaining infrastructure, up-to-date ICT framework which guides regular interval replacement of physical hardware to maintain swift functionality, and timely support by vendors and support teams.

### **4.3.3 Findings based on Document Analysis Regarding Technology Responsive Measures Adopted by University Libraries**

The researcher analyzed several documents including university library annual reports, university procurement plan, policy frameworks, subscription details and library strategic plan. In particular, the researcher checked for the following aspects; physical

ICT infrastructure plan, policies in place and decisions made supporting adoption of technology. The findings from document analysis indicated that university libraries have adopted various technologies. The main technology is electronic resources comprising of Ebooks access and ejournals access. Ebooks Access allows users to access and use resources online or downloaded in pdf and html format for use offline. They require a user login which is authenticated by the Myloft software. Therefore, they can be accessed on-campus and off-campus. Some of the e-resources databases include; Proquest, Springer, JSTOR, Elgar online, Project Muse, Emerald Insight, Ebscohost and Wiley Online. An interrogation on other few documents available, findings show that there was turnitin software and drillbit software for checking plagiarism. The university library annual reports also indicated that the library engaged IT departments for installation, repair and maintenance of various technologies. However, there were no documentations showing capacity building programs for staff on technological advancements.

#### **4.3.4 Thematic aspects arising from the findings on Technology Responsive Measures adopted by University Libraries**

Based on the findings, the researcher identified key themes as follows: Technology based measures, system update strategies, digital infrastructure, technology-related changes, sustainability of digital content and innovation. The study noted that libraries had adopted technology-based measures including remote access software, my loft software, anti-plagiarism software, e-resources and social media platforms. The findings are consistent with work of Jain (2017) that with computing technologies, university libraries can provide access to resources through online platforms and electronic media eliminating the need for users to be physically present in order to access learning materials.

There are strategies in place to ensure that systems are updated. Library staff work closely with IT people, continuous update and upgrade of systems, system backups, and CIA practices like clear disk policy. Digital infrastructure is maintained through staff training. Librarians respond to technology-related changes through proposal writing to the university management and trainings. For sustainability of digital content, the library uses servers such as Dspace. There are innovative solutions currently being utilized to improve library's technology capabilities among the library staff. These include; CCTV installation, in-house trainings and collection development. The findings corroborate the study of Penolis and Adoma (2018) that Successful implementation of technologies highly depends on technical proficiency of university librarians.

The above elements can be reduced to two main themes namely, Technology and Digital Content Sustainability; and digital transformation. The themes are similar to assertion of Newman (2017) that the technology act as an enabler in evaluating the progress of library staff as well as measuring their performance. This theme summarizes the findings of this study as it accounts for all the elements discussed such as use of technology-based measures, system update strategies, digital infrastructure, technology-related changes, sustainability of digital content and innovation. All of these elements have an impact on the library's ability to maintain and advance its digital capabilities. These themes therefore address all the elements discussed in the study.

#### **4.4 Cooperation Initiatives Measures Pursued by University Libraries**

The study's second objective was to examine cooperation initiatives measures pursued by university libraries in Meru County. The key aspects that were of interest to this study were stakeholders' engagement, operational policies available, corporation strategies and library faculty partnerships. The data provided here in are from

interviews with university librarians, FGDs by head of sections and document analysis results.

#### **4.4.1 Findings from librarians on Cooperation Initiatives Measures Pursued by University Libraries**

The librarians were asked to state how library benefits from engaging with stakeholders including university top management, the library patrons, library donors, well-wishers and library- faculty partnership. According to the findings, university management helps in approving budget and approving the proposals. The findings agree with results by Maalik and Ameen (2018) that collaboration initiatives are linked to enhanced service delivery by academic libraries. There is goodwill by the university management to support library operations. The findings are consistent with the work of Wajciechowska (2021) who found that collaboration initiative help librarians to build collection that is of great value to scholars and researchers.

Further, there is good working relationship between library and library patrons. Issue and incidences of misbehave and breaking of library rules and regulations are minimized. The students are also in the library committee and therefore are able to bring their voice. According to Atikinshon (2019), faculties and research departments collaborate with university libraries to achieve a common understanding of relevant collection to purchase. One librarian remarked,

*We have a conducive learning environment that is not chaotic, we don't have so many cases because they are cooperating and understanding why they need to talk to me to give the books, why they need not to misbehave and make noise in the library. Working closely minimizes the conflict (Librarian 2).*

Additionally, there are people who have donated books to library thus contributing to scholarship. When people donate to the library, it benefits by building collection while

donors benefit by making impact to the community. Library- faculty partnership enrich the collection development because faculty have a say. An example of one of the comments from the interviews is,

*“The library does not buy books without the approval of the chairman of the department who is expected to consult the lecturers who teach specific subject. As such, library staff work closely with the members of the faculty to ensure relevant books are used. Faculty members have also benefited through trainings which enable them to reach students with ease.”* (Librarian 1).

According to Mwaniki (2017), corporations’ development involves purposeful, planned, systematic and progressive improvements in university libraries.

The librarians were asked to explain partnerships involved with other universities and libraries to facilitate collaboration and information sharing. According to the findings, there is interlibrary borrowing. There is also good working relationship with Kenya library association and university libraries. One librarian noted,

*We have established a mutual cooperation with the KNLS all across the country because of those who do French we have an agreement with a French organization, so those doing French can go there and access the materials* (Librarian 1)

When asked to describe how they evaluate and monitor the partnerships, one respondent noted that currently, the university library does not have monitoring systems that are put in place, just a mutual understanding that is yet to be developed. Another librarian postulated that monitoring is membership based and there is annual subscription.

The respondents were asked to highlight challenges encountered in engaging stakeholders. According to the findings, there is lack of understating by the top management. The management takes time before understanding the library needs. There is also lack of cooperation by faculty. The findings concur with the argument by Maalik and Ameen (2018) that challenges such as lack of morale to pool information resources and human resource capacity together and lack of good leader slow down understanding and cooperation between libraries and the faculty.

One librarian said,

*Although faculty may not have the time to continually update their course outlines to include the most up to date resources, providing them with URL links to quality materials can help ensure that their students have access to the latest information available. These libraries of resources can also help them to tailor the course content that best meet the needs of their students. (Librarian 2).*

Librarian 2 remarked,

*It is evident that students can benefit from cultivating a scholarly mentality which values learning through hard work. Additionally, postgraduate students can create better time management strategies to strike a balance between their studies and other commitments. Furthermore, institutions could maintain a better track of their payment cycles to ensure that their suppliers receive timely payments. Overall, these strategies can help students and institutions to make sustained progress.*

The librarians were asked to indicate strategies implemented to address cooperative challenges with different stakeholders. Based on the findings, one strategy involves convincing top management and faculty on the importance of supporting library activities. Another strategy is having good leadership and creating a learning atmosphere and appreciating the value brought on board by each staff. Additionally, having good relationship with the student union. The student officials have access to the voice of student, hence the need to have good working relationship with the student officials. One librarian said,

*For faculty we use intervention of the top management, for example when we wanted them to create google scholar the memo did not come from me it came from the registrar so they take it more seriously. Students' trainings communication is also made from the higher office and it works (Librarian 2).*

The librarians were asked whether the library has cooperation operational policies to facilitate cooperation between library staff and other stakeholders. A respondent noted that there is a small clause that talks about the library cooperation. However, the policy is not detailed in terms of specifying procedure of establishing such corporations. The

second respondents observed that there was no explicit statements on cooperation. According to Maalik and Ameen, (2018), collaboration initiatives are linked to enhanced service delivery by academic libraries.

When asked to specify strategies the library uses to ensure that cooperation operations are conducted in a timely and cost-effective manner, the respondents noted that maintaining good relationship with people who are involved in the cooperation. There are also Memorandum of understanding that spells the expectations from each party. The findings agreed with results of Madge (2018) that trust, honesty and the ability to fit in different skills and expertise makes the collaboration more vibrant and successful over the years.

The librarians were asked to make suggestions towards improving cooperation initiatives measures for university libraries. Based on the findings, the suggestions are summarized as follows: minimize competition between universities and embracing cooperation, drafting policies that will enable even members of the public to cooperate with the library, sensitize top management on importance of libraries, having policies to outline the cooperation procedure with other libraries, and coming up with association chapters that brings together stakeholders of the same region. These findings concur with the argument by Jain (2017) that having 3Ps; people involvement, processes initiations and procedure establishment strengthens collaboration initiatives.

#### **4.4.2 Findings from Head of Sections on Cooperation Initiatives Measures Pursued by University Libraries**

The library section heads were asked to state types of activities they found to be most successful in engaging corporate partners. The findings indicated benchmarking, inter-library loaning, leasing of printing services and donors. It's important for the library to



establish clear goals and strategies for engaging corporate partners and to continuously evaluate and adjust these activities based on feedback and results.

The library section heads were asked to explain how they measure the success of a cooperative relationship. Based on the findings, the extent to which the cooperative relationship has achieved its intended goals and objectives is a key measure of success. This can include measures such as increased library revenue, improved staff productivity or increased access to resources and usage. The extent to which the cooperative relationship has provided mutual benefit to all parties involved is another key measure of success. According to Jain (2017), the quality and effectiveness of communication between partners is critical to the success of a cooperative relationship. Measures of success in this area might include the frequency and quality of communication, the responsiveness of partners, and the level of trust established between partners. The findings agreed with results of Madge (2018) that trust, honesty and the ability to fit in different skills and expertise makes the collaboration more vibrant and successful over the years. The extent to which partners have been able to adapt to changing circumstances and requirements is another important measure of success. This can include measures such as the ability to adjust to changes in the market, changes in patron needs or changes in technology. The extent to which the cooperative relationship has generated new ideas, products or services that have created value for all partners is another key measure of success.

When asked to indicate challenges faced when pursuing collaborations with other organizations, the respondents noted limited support from management, uncooperativeness, and poor implementation of feedback. Additionally, some partners are inflexible to new changes and developments. These findings are similar to the assertion by Alabi (2018) that the existing organization cultures, legal aspects and

different ways of communication forces instability in pursuing collaborations between institutions.

The library section heads were asked to indicate types of organizations they have been most successful in forming partnerships with. The results revealed academic institutions of higher learning, service providers for off-campus access ECLAT, Proquest for content provider, anti-plagiarism provider Turnitin and DrillBit. According to Madge (2018), organizations relating with stakeholders of different taste and preference helps the organization understand the interests and preferences thus modifying products and services to meet these needs.

When asked to evaluate the potential benefits of a partnership before committing to it, the respondents indicated several benefits as follows: Acquisition of in-depth knowledge, exposure and getting challenges, obtaining solutions to problems and facilities to compare with others so as one can serve patrons better. These findings concur with the argument by Mwaniki (2017) that Successful collaborations are those set to provide platform for promoting information literacy skills to students and also forming consultative grounds in making enquiries of relevant information materials.

The library section heads were asked to state how the library has worked to improve communication with stakeholders such as top university management, library patrons and donors. The findings indicated utilization of ERP, hierarchy flow of unit of command and direction where one is accountable to the immediate supervisor. Allocating a staff who follows up on critical issues which require top management communication and adopting of email as major communication channel. These findings are consistent with the work of Madge (2018) that corporations' development involves purposeful, planned, systematic and progressive improvements in university libraries.

The library section heads were asked to explain what needs to be done to improve cooperation and partnerships in university libraries. Based on the findings, there is need for training before investing time and resources in partnering. There should also need to have a committee in charge of partnerships. Well-doing universities should be recognized and benchmarking be done. There should be a policy developed and implemented to support partnerships. According to Onyancha (2018), these associations focus to improve services delivery and diversify library collection through shared knowledge internationally, internally, and regionally or locally

#### **4.4.3 Findings based on document analysis regarding Cooperation Initiatives Measures Pursued by University Libraries**

The researcher analyzed several documents including University library annual reports, policy frameworks, Calendar of events, and library strategic plan. In particular, the researcher checked for the following aspects; Sstrategies to engage stakeholders, budget allocation for cooperation, and library – faculty operational procedures. The findings from document analysis revealed that university library cooperates with other institutions in various ways. Some of the cooperation initiatives include sharing of materials and information, benchmarking, trainings, and open standard policies. According to Jain (2017) open standard policy allows students and faculty from one insitution to access resources from another institution freely. However, the collaboration effort was minimal.

#### **4.4.4 Thematic aspects arising from the findings on Cooperation Initiatives Measures Pursued by University Libraries**

Based on the findings, the researcher identified key themes as follows: cooperation initiatives measures, interlibrary borrowing, cooperation challenges and improved stakeholder engagement. According to the findings, there is good relationship between

library, university management, faculty and students. There is also interlibrary borrowing and users who feel there are resources found in other library are given introductory letters. According to Madge (2018), the promotion of collaboration is made easy through social networks such as email system, blogs, acquisition through consortia, conducting the interlibrary loaning and partnering in cataloguing. However, there is lack of understating by the top management and faculty. Students lack scholarly mentality and prefer shortcuts. Post graduate students are busy and do not even find time to update their course outline. For the outsiders and the suppliers, the institution does not pay on time and so some of them withhold supplying the resources that are needed. These findings are similar to the assertion by Onyancha (2018) that many university libraries are faced with the tough economic times where budget for purchasing books and other information materials is minimal, To address the cooperative concerns with different stakeholders, librarian emphasizes to management and faculty on the importance of supporting library activities. Another strategy is having good leadership and creating a learning atmosphere and appreciating the value brought on board by each staff. Additionally, having good relationship with the student union.

From the above, the researcher further reduce the themes into two, first, effective collaboration among all stakeholders for successful library operations. This theme is important because effective collaboration among all stakeholders is the key to successful library operations, this is according to Jain (2017). According to Jain (2017), successful library operations helps to ensure that the library remains relevant and accessible to users and that resources are allocated appropriately. It also encourages the library to embrace innovative practices and ideas and to better serve the university. This theme is similar to Mwaniki (2017) argument that effective collaboration between

library staff, faculty, university management and students provides support, encouragement, communication and trust in the library environment, which in turn leads to more successful library operations.

The second theme is creating culture of learning and appreciation. By creating a culture of learning, appreciating the value brought by each staff, and having good relationships with the student union, libraries can encourage their users to develop a scholarly mentality and to better understand the resources they have available. According to studies by Jain (2017), a positive culture of learning will help improve the access, utilization and overall effectiveness of library services.

#### **4.5 Nature of Capacity Building Programs Pursued By University Libraries in Meru County**

The study's third objective was to assess nature of capacity building programs pursued by university libraries in Meru County. The key aspects that were of interest to this study were ICT courses and skills, staff training and development, professional and career development and mentoring and coaching. The data provided herein are from interview with university librarians, FGDs by head of sections and document analysis.

##### **4.5.1 Findings from librarians on Capacity Building Programs Pursued by University Libraries**

The librarians were asked to state the capacity building programs initiatives that university library has implemented in the past. According to the findings, libraries have implemented several capacity building programs. These are; leadership training, training on customer care, training on information retrieval building and training on reference management systems. The findings imply that university library management has made efforts to implement capacity building programs and this is likely to enhance libraries responsiveness to disruptive forces. According to Rotich (2021), aspect of ICT

training for staff improves their skills and expertise towards automation, management of integrated library systems, software installation and maintenance. Similarly, the findings support results by Jayasuriya et al. (2022) that trainings on new technologies is fundamental in enhancing librarians' capacity.

The librarians were asked to explain strategies used to ensure that library staff are equipped to deliver on library services. The findings indicated sharpening staff skills as a key strategy that helps library staff deliver on library services. Entrenchment in the performance contract such that if one has been trained in a certain area then this is included in their performance contract. There is also monitoring such that library staff are personally monitored and corrected when necessary. The findings are similar to those of Musangi (2019) who observed that attending training conferences either in person or online builds one intellectual capacity and even further promotes networking.

The librarians were asked to state opportunities they provide for library personnel to participate in professional development activities. According to the findings, library personnel are invited whenever there is a professional meeting like workshop seminars. There is also inhouse and outside trainings. Library staff are also free to be members of professional association. The findings concur with results of Ahmad et al. (2017) that capacity building enlightens librarians to achieve competency in fulfilling the vision and mission of university libraries.

The librarians were asked whether they have incorporated new library technologies into their capacity building programs initiatives. The respondents noted that whenever there is a new technology, staff are trained. There is also continuous sharpening of staff skills related to systems application. There is also adoption of virtual trainings. One librarian opined,

*Whenever there's a new system feature, we always make sure that our staff are trained, we build the capacity on them for the new version release (Librarian 1)*

The librarians were asked to specify methods used to measure the effectiveness of capacity building programs initiatives. According to the findings, there is use of appraisal that pushes library staff to meet the expectations. Library staff are also expected to perform as the training received.

The librarians were asked to state challenges encountered when implementing capacity building programs initiatives. Based on the findings, the respondents highlighted lack of self-motivation by staff to acquire new skills. Skill gap is also a major challenge where most of the staff are unable to perform critical tasks due to lack of necessary skills. Further, there is the problem of staff turnover especially after gaining necessary skills and experience. The findings are consistent with the work of Monica and Harrison (2016) who noted that inadequate teaching resources, mismatch of course content offered with the job market and insufficient internship opportunities were highlighted.

One librarian said,

*In terms of skills training, I have provided my staff with the valuable skills they need to succeed in the industry, and as a result, some of the best people I've trained left the institution to find new opportunities. (Librarian 1).*

The librarians were asked to explain how they incorporate mentoring and coaching into their role as a university librarian. One respondent highlighted the importance of having personal sessions with individual staff. There is also developing good relationship with each staff which enables them to seek help when facing any challenge. Additionally, delegation of duties to staff is critical in enhancing their performance. One librarian said,

*I give personal advice, which is customized because what applies to one staff may not apply to the other one. I have also done a lot of training and have asked them to accompany me, that's how I mentor. I delegate a lot in terms of tasks and also give them room to implement whatever they have learned (Librarian 1).*

When asked to indicate the benefits of mentoring and coaching library staff, the respondents noted that there is succession planning and business continuity. There is also knowledge sharing. It creates a learning culture, organizational development, it provokes staff to look for solution in terms of the challenges they are facing. Further, mentorship and coaching create new opportunities for library staff.

The librarians were asked to state how they assess the effectiveness of library mentoring and coaching programs in the library. According to the findings, delegated leadership helps to assess the effectiveness of library mentoring and coaching programs. Performance appraisal also helps to assess effectiveness of library mentoring and coaching programs. Additionally, effectiveness of library mentoring and coaching programs can be assessed by observing work done when the librarian is not around.

The librarians were asked to give advice to other university libraries looking to implement capacity building programs. According to the findings, librarians should share knowledge and skills with staff to build the capacity. Budget for training and development needs to be increased so that the library is able to identify a skills gap. The training and development policy needs to be revised to meet the staff needs. There is need to activate community of practice, which involves bringing people who are working in the certain organization together to share their experiences.



#### **4.5.2 Findings from Head of Sections on Nature of Capacity Building Programs Pursued by University Libraries**

The library section heads were asked to explain how they have evaluated the success of their capacity building efforts within the library. The findings indicated that through surveys- after trainings there is an assessment through LMS before activation user accounts. Feedback through WhatsApp, emails, tawk.to, usage rate and participation in library service.

When asked to discuss how they have collaborated with other organizations to implement capacity building programs, the respondents noted that the collaboration was minimal. This means that there was limited collaboration between the libraries and other organizations on capacity building initiatives. On the question of online courses or workshops the library offers to help develop the skills needed for staff career, the section heads noted that they register for general webinars covering different topics related to research and scholarly writing.

#### **4.5.3 Findings based on Document Analysis regarding Nature of Capacity Building Programs Pursued by University Libraries**

The researcher analyzed several documents including University library annual reports, policy frameworks, Calendar of events and library strategic plan. In particular, the researcher checked for the following aspects; technical training opportunities and opportunities for short courses, workshops and seminar programs. The findings from document analysis revealed that university libraries had conducted several trainings on students, faculty members and library staff. Information literacy training is one of the trainings undertaken by the libraries. There has also been physical and online trainings on accessing and using e-resources to students. The students training focused on: how to access library portal, how to access and utilize e-books and e-journal databases

relevant to the specific academic programmes, how to access past papers online and also training on citation and referencing. These findings are consistent with work of Madge (2018) that library staff have trained researchers and faculty on the use of e-resource systems and platforms, including the use of search strategies and specific techniques for retrieving information. Madge (2018) studies suggests a need for continuous training and updating for library staff and students in order to optimize library services.

The researcher determined that the library is not fully equipped with tools to carry out online training such as: a dedicated laptop with camera recorder to comfortably train users online. The library depended on ICT department for laptop and camera to conduct the training. These findings concur with Atiknson (2019) studies that posit library trainings are increasing and university libraries are not yet fully equipped to provide online trainings.

#### **4.5.4 Thematic aspects arising from the findings on Nature of Capacity Building Programs Pursued by University Libraries**

From the findings, the researcher identified key themes as follows: capacity building programs, opportunities for library personnel, challenges of capacity building programs and mentorship programs for library personnel. According to the findings, capacity building programs implemented by libraries are leadership training, training on customer care, training on information retrieval building and training on reference management systems. To ensure opportunities are available to library personnel, library staff participate in training workshops and seminars. Capacity building programs initiatives faces several setbacks such as lack of self-motivation by staff to acquire new skills, skill gap and staff turnover especially after gaining necessary skills and experience. According to Atiknson (2019) lack of sharpening of skills leads to

redundancy and duplication of old processes in the new era. Further, having personal sessions with individual staff and developing good relationship with each staff helps in incorporating mentorship and coaching into the role of librarians. Findings from Jain (2017) highlights benefits of mentorship such as succession planning and business continuity, knowledge sharing, creation of a learning culture, organizational development and promotion of problem-solving.

From the discussion, the researcher further reduced the themes into two. First theme is, importance of mentorship for library personnel in order to ensure opportunities, growth and development. According to Kwanya (2017), it is essential to create a supportive environment in which library staff can learn from one another by engaging in mentorship and meaningful dialogue. With the proper channels of communication in place, mentorship can be a powerful tool in developing capacity amongst library staff, this is according to Oguiche et al. (2017) findings.

Second key theme is the need for capacity building programs in libraries in order to ensure that library personnel can fully utilize their knowledge and skills. This will help them serve their patrons better and ensure organizational growth. The theme corroborates with Ahmad et al. (2017) that providing training and education on different topics, library personnel will be able to acquire different skills to further improve their work and help their patrons. The findings by Kwanya (2017) posit that Capacity building programs can also help library personnel build relationships with their patrons and coworkers in order to foster a more collaborative and productive environment.

#### **4.6 Resource Sharing Initiatives Pursued by University Libraries in Meru County**

The study's fourth objective was to examine the resource sharing initiatives pursued by university libraries in Meru County. The key aspects that were of interest to this study were interlibrary loaning services, negotiations and contracting initiatives, conferences and seminars and library consortia. The data provided herein are from interview with university librarians, FGD by head of sections and document analysis report.

##### **4.6.1 Findings from librarians on Resource Sharing Initiatives Pursued by University Libraries**

The librarians were asked to specify strategies the library employed to facilitate resource sharing among academic institutions. According to the findings, members of faculty and students have introduction letters that allow them to access the library. The library has an open standard policy such that faculty members and students from other institutions can access materials from the library. This implies that libraries have made effort to facilitate resource sharing. The findings agreed with the work of Eugene (2022) who observed that to improve the accessibility and visibility of intellectual works worldwide, the majority of universities have made large investments in institution repositories.

When asked whether the strategies have been effective in increasing resource sharing, the respondents noted that the opportunities are there for resource sharing through the open access policy. Nonetheless, there is limited motivation by faculty members and students to access resources from elsewhere. According to Dattatraya (2018), university librarians are actively participating in resource sharing networking services to enrich library collection and serve customers effectively.

The librarians were asked to explain how the library staff responded to the need to collaborate on resource sharing initiatives. According to the findings, library staff are very receptive and willing to cooperate. Library staff are also encouraged to make the resource catalogue clean since it's meant for the whole world.

The librarians were asked to state challenges encountered in facilitating resource sharing among different stakeholders. According to the findings, some institutional policies are rigid and do not allow students from other institutions to access the digital library. Security is also challenge. Further, sharing involves cost and there may be no budgetary allocation that supports the sharing of information. According to Kimanga (2018), university libraries face issues related to digital library infrastructure and poor governance in administering of electronic resources.

The librarians were asked to indicate best practices or guidelines the university library adheres to when it comes to resource sharing. According to the findings, worldwide libraries requires that there is cooperation between libraries. The use of a common library management system like KOHA enables people to browse catalogue from wherever they are. It facilitates resource sharing because one can browse the collections of another library. The Dspace system also allows access of materials in an institution's digital repository. The results imply that university libraries have adopted best practices that can enhance resource sharing. According to Saarti and Touminen (2019), resource sharing initiatives are common and are at global level.

The librarians were asked to state type of programs or services the library offers to facilitate resource sharing initiatives. According to the findings, software like D- space operates on an open access initiative. Through that, the library is able to share research output with faculty and students from other institutions.

When asked to state the key elements of a successful negotiation and contracting process in the library, the respondents noted that there are rare cases of negotiating with the vendor because in Kenya there is formation of a consortium. The consortium negotiates the price and availability of online sources on behalf of libraries. Further, having MOUs that sets the expectations has helped in ensuring successful negotiations. Additionally, feedback is critical in enhancing negotiations. The findings support results by Orumah and Baro (2021) that initiatives by library consortia improve service delivery, which is attributable to elements like clearly defined policies.

One librarian noted,

*We appreciate KLISC's willingness to work with us to ensure that the databases they offer meet our user needs (Librarian 2).*

The librarians were asked to state how they determine which contracts are necessary and which are not during negotiations and contracting library services and systems. According to the findings, libraries are guided by user need, what needs to be addressed and the technical capability. Library management does not want to engage in a contract that they are not able to maintain in terms of money.

The librarians were asked to explain services and resources received through library consortia. The findings indicated that there is access to e-resources, training, negotiated products like Turnitin.

One librarian opined,

*The consortia conduct training for staff dealing with e- resources whenever there is an emerging technology. Additionally, consortia expose libraries to new resources and technology. (Librarian 2)*

The librarians were asked to give advice to libraries considering joining library consortia. The findings indicated that a consortium has more bargaining power, help

the institution to see the sense because at times the consortium writes directly to the CEO of the institution. Since it is a corporate body, it is respected and such that whenever there is that kind of a letter coming from them the authority will rarely doubt that. There should be a consortium for technical institution training libraries because their resources may be slightly different. The librarians should also take advantage and cooperate with the consortium training activities and trust it that it will deliver.

The librarians were asked to make suggestions for improvement in regard to resource sharing initiatives pursued in university libraries. The suggestions were; there is need to come up with the policies that are open that make the library an information center, there is need to review policies so that the prohibitive statement in the policy are removed to allow knowledge sharing, and partnership with the related boards.

#### **4.6.2 Findings from Head of Sections on Resource Sharing Initiatives Pursued by University Libraries**

The library section heads were asked to explain how technology has helped or hindered resource sharing initiatives. According to the findings, technology has promoted information sharing through outsourcing and inter-library loaning, it has promoted wide accessibility of information resources, and it has promoted access to and use of information. It has also improved access to resources. The findings are similar to the assertion by Chisita and Fombad, (2020) that technology has had a positive impact on information sharing in libraries. However, negative impact includes copyright and licensing issues, technical barriers that can hinder resource sharing initiatives. These findings are consistent with the work of Eugene (2021) that the potential for copyright issues and potential violations of intellectual property can be a downside to technology-enhanced information sharing.

The library section heads were asked to indicate the kinds of resources that are typically shared between the university libraries and how they ensure that they are accessible to all patrons. The findings indicated E-resources as the main resources. According to the respondents, resource sharing initiatives is at infancy stages and has not been appreciated. These findings concur with the argument by Eugene (2021) that although there have been some advances in resource sharing technology, it is still far from providing a comprehensive solution for university libraries.

The library section heads were asked to indicate ways that resource sharing initiatives has improved access to library resources and services. Based on the findings, resource sharing initiatives have reduced cost of acquiring information materials, promoted wide usage of resources and promoted standardization on the materials required for each program offered in different academic institutions. These findings are similar to the assertion by Calhaob (2017) that and technology-based library services reduced costs by consolidating costs, eliminating duplication of efforts, increased cost effectiveness of library services as well as promoting standardization, communication and cooperation enabling institutions to build cohesive and more efficient library services.

The librarian head of sections were asked to state how often they attended conferences and seminars for idea sharing. Based on the findings, the attendance was minimal due to limited finances and lack of support from the management. These findings concur with the argument by Eugene (2021) that librarians often lacked support from their library management in attending professional conferences and seminars due to limited finances.

The library head of sections were asked the fees associated with interlibrary loaning. Based on the findings, there were no fees for interlibrary lending between campuses



this was done freely and was effective however, the respondents opined that there were no policies to guide interlibrary loaning between universities. These findings differ with research conducted by Dattatraya (2018) that fees were associated with interlibrary lending between institutions. Future research may need to explore further why the current study did not find any fees associated with interlibrary loan services.

#### **4.6.3 Findings based on Document Analysis regarding Resource Sharing Initiatives Pursued by University Libraries**

The researcher analyzed several documents including University library annual reports, policy frameworks, Calendar of events, and library strategic plan. In particular, the researcher checked for the following aspects; budgets, support and procedures. The findings from document analysis revealed that libraries have adopted different systems to facilitate resource sharing. Myloft is one of the systems that has been available throughout the period with minimal downtime resulting from power failure. Another system is Koha, which continues to serve the institution well in managing library information materials despite a few challenges such as opac search problem and unavailability of the service. The opac search issue required frequent restart of the system which happened occasionally. The system unavailability issue usually occurs when the server is offline due to power or network failure. A similar study by Stapel (2018) on resource sharing systems revealed that software cost, lack of electricity, and lack of technical staff were among the challenges faced by libraries in implementing the resource sharing systems.

#### **4.6.4 Thematic aspects arising from the findings on Resource Sharing Initiatives Pursued by University Libraries**

From the findings, the researcher identified key themes as follows: resource sharing initiative, best practices, challenges of resource sharing and contract's viability. The

findings revealed that libraries have adopted strategies to facilitate resource sharing among academic institutions. The library has an open standard policy such that faculty members and students from other institutions can access materials from the library. According to Orumah and Baro (2021), best practices require that there is cooperation between libraries. There is also use of a common library management system like KOHA that enables people to browse catalogue from wherever they are. The D space system also allows access of materials in an institution's digital repository. Further, consortium negotiates the price and availability of online sources on behalf of libraries. On challenges, some institutional policies are rigid and do not allow students from other institutions to access the digital library. Additionally, sharing involves cost and there may be no budgetary allocation that supports the sharing of information. In determining contract's viability during negotiations, libraries are guided by user need and the technical capability. These findings are consistent with work of Orumah and Baro (2021) that libraries are increasingly using strategies to facilitate resource sharing among academic institutions. These strategies include open access policies, shared library management systems and consortium negotiations.

The researcher further minimized the key themes into two namely; Effective resource sharing strategies for academic institutions and maximizing access to scholarly resources across academic institutions. These ultimate key themes seeks to emphasize the importance of providing as much access as possible to scholarly resources across different academic institutions. According to Eugene (2021), it is critical for libraries to adopt effective resource sharing strategies. Such strategies include utilizing open standards to make materials widely accessible, establishing consortiums to negotiate and discount online content as well as employing digital library management systems to enable catalogues to be browsable from anywhere (Eugene, 2021). By implementing

such strategies, libraries are able to maximize access to scholarly resources and ensure they are available to the widest possible audience.

#### **4.7 Analysis of Strategic Responsiveness of University Libraries in Meru County**

The study's dependent variable was analysis of strategic responsiveness of universities in Meru County. The key aspects that were of interest to this study were improved library services and resources, satisfaction of customer needs and expectations, specialization in systems, repositories and growth of knowledge managers and revision of library course curriculum. The data provided herein are from interview with university librarians, FGDs by head of sections and document analysis.

##### **4.7.1 Findings from librarians on Analysis of Strategic Responsiveness of University Libraries in Meru County**

The librarians were asked to explain how the library has adapted to the changing needs of its users in response to disruptive forces. According to the findings, capacity building of staff has helped library adapt to changing needs of users. The findings agree with results of Musangi et al. (2018) that a university librarian who can deliver excellency is nurtured in four dimensions; education, training, experience and personal core competencies. People cannot respond to change if they have not been sharpened. The other one is increasing the budget for supporting information acquisition subscription. Further, ensuring that staff in the library are having the skills and competencies. Additionally, there has been design of new products; Libraries have been able to provide interfaces that enable the user to quickly get the information that they're looking for with ease. Finally, establishment of relevant policies that guide how libraries respond to disruptive forces. According to Harris (2017) librarians using online methods to expedite their services reach out to more users as compared to those users served physically.

The librarians were asked to explain strategies implemented by the library in order to remain competitive and responsive to disruptive forces. The findings revealed cultivating a good working relationship with the members of the faculty. There is also collaboration between library and the research docket. Further, inclusion of students in the library committee. This ensures that the changing needs of students are communicated to the library through the officials. In addition, strengthening library's position in the consortium so that the new technology that are coming up, library participate in the negotiation. The findings support argument by Chakraborty and Brahma (2018) that university libraries have over the years responded to new ways of delivering quality and accessible information through innovative technologies. Atanda (2021) highlights that a responsible librarian searches for ideas and support from negotiations and communications by different stakeholders.

The respondents also noted professional development of staff so that they gain new knowledge and skills. By gaining new qualification, they're able to bring back that knowledge to enhance the manner in which they offer their services in the library. There is also good working relationship with IT people. According to Allen and Taylor (2017), modern-day librarians are aware of ways to reach out to users virtually, exercise effective communication, and be familiar with open avenues put in place for cooperation and partnerships. The respondents further indicated continuous improvement of services. One librarian remarked said,

*We keep revisiting to the customer services, so that we ensure we are responsive to the emerging issues and we are able to respond to threats. We also build staff capacity because that's another way of trying to be able to respond to the changes (Librarian 1).*

When asked to state how library endeavors to operate and maintain most effective strategies/ best practices in addressing disruptive forces, the respondents indicated that

there is budgetary allocation to support functions, staff training and policy review. Further, library has strengthened its role in contributing to research and innovation so as to continue improving value to the organization or the institution. These findings corroborate the study by Nzioka (2018) that libraries are always working towards developing strategic plans which are in sync with their institution's objectives and also known to strive to provide a wide range of services and resources which would add value to the organization.

The librarians were asked to make recommendations to university libraries to help them strategically respond to disruptive forces. Based on the findings, there's need for mindset change to the library profession, the future of the library is in training or capacity building. Further, making use of emerging technology and coach students and other patrons on how to manage that technology and to utilize the technology gainfully for scholarship for research and for learning. Additionally, training institutions should change their curriculum to respond to emerging issues. Past studies have similar recommendations suggesting that increased training and capacity building may be necessary to ensure the long-term sustainability of libraries. For example, a study by Adekoya & Fasae (2021) reported that librarians need to develop the skills necessary to utilize and sustain the use of potential technologies, such as mobile device trends, digital resource development and data-based decision-making in order to remain relevant in the changing information landscape.

#### **4.7.2 Findings from head of sections on Analysis of Strategic Responsiveness of University Libraries in Meru County**

The library section heads were asked to specify the strategies in place to ensure that university libraries are able to respond quickly and effectively to changes in the market and to new technologies. Based on the findings, the respondents noted the importance

of adoption of ICT infrastructure. There is also subscription of e-resources, training and advocacy to encourage the utilization of electronic resources. Additionally, adoption of ask a librarian and email platforms for ensuring learners submit their information needs. Further, there is partnerships with vendor. These findings are consistent with work of Allen and Taylor (2017) that in recent years, libraries have adopted a variety of technologies in order to provide access to e-resources, such as virtual reference services, digitization projects and mobile applications. In addition, university library's physical spaces have been redesigned to accommodate new technologies, such as large-screen computer terminals, video walls and collaborative areas.

When asked to state processes they have in place to monitor customer feedback and use it to inform strategic decisions, the respondents indicated a suggestion box, there is a customer complains form for submitting complaints and compliments. They also conduct customer feedback surveys to enable understand their information needs. These findings concur with the argument by Atanda (2021) that customer feedback should be monitored carefully and used as a key source of information to inform strategic decisions.

The library section heads were asked to state the strategies they have in place to ensure that library services are sustainable in the long-term. Based on the findings, there is deployed technology which assures 24/7 availability of services and backup of the library resources. There is also a committee set aside to develop a knowledge management policy which also incorporates the sustainability and perpetuity of customer service. Further, there is investment of financial resources to digitize most of the library services, strategic planning, collaboration and innovation. These findings are similar to the assertion by Barik and Jeni (2019) that technology utilization, strategic planning and proper governance are essential to ensure sustainable services.

The library section heads were asked to discuss initiatives that the library has put in place to increase its strategic responsiveness. Based on the findings, there is change in sitting arrangement of the library furniture, subscribing to more e-resources than the print resources and changing to online trainings. Additionally, there is development of strategic planning, collaboration and partnerships, evaluation and assessment. Duncan (2021) past studies are in line with these studies by positing that the initiatives adopted by the library section discussed in the present era have enabled the library to remain current and responsive to its environment.

#### **4.7.3 Findings based on Document Analysis regarding Analysis of Strategic Responsiveness of University Libraries in Meru County**

The researcher analyzed several documents including University library annual reports, policy frameworks, Calendar of events and library strategic plan. In particular, the researcher checked for benefits accruing from use of technology as well as challenges facing use of technology. The findings from document analysis indicated that users of university library have benefited from technology in various ways. These benefits include; access to e-books and e-journals, internet information access and services, digitized past paper access, multimedia services, selective dissemination of information, information literacy trainings, current awareness services to faculty, and ask a librarian and online chat reference service. Through these services, many students have successfully completed their studies and thesis writing. These findings are consistent with the work of Adekoya and Fasae (2021) that use of technology improves library services by providing more access to resources and improved customer service. The researcher observed that there are several challenges that hinder strategic responsiveness of university library. Internet and access to e-resources is critical for students to complete their assignments and do researches. The number of computers in

the digital library which offers these services to users is decreasing. This is caused by frequent breakdown of computers some of which are very old. There is need to provide enough computers to support accessibility of e-resources by the user community in the library.

#### **4.7.4 Thematic aspects arising from the findings on Strategic Responsiveness of University Libraries in Meru County**

From the findings, the researcher identified key themes as follows: competitive strategies, collaboration, library position in consortium and best practices. According to the findings, libraries have implemented strategies to remain competitive and responsive to disruptive forces. These include cultivating a good working relationship with the members of the faculty. There is also collaboration between library and the research docket as well as inclusion of students in the library committee. Findings by Musangi et al. (2018) have found similar themes that major strategies employed by libraries is collaboration with other partners such as faculty members, industry partners and governmental agencies in order to maintain its position. Further, strengthening library's position in the consortium so that the new technology that are coming up library participate in the negotiation. Further, libraries operate and maintain most effective practices in addressing disruptive forces through budgetary allocation to support functions, staff training and policy review.

The researcher further derived one ultimate theme from the listed themes namely; maintaining agility for Disruptive Forces for university libraries. This theme is similar to assertion by Bakare and Bakare (2021) that discussed the need for budget allocation and policy review in order to maintain agility. The theme encapsulates all the findings from the researcher's discussion. This theme is a direct reflection of the strategies and actions libraries need to take in order to remain competitive and responsive to disruptive



forces. It also serves to illustrate the need for collaboration, library position in the consortium, and best practices to ensure that the libraries can maintain its agility for disruptive forces.

#### **4.8 Chapter Summary**

Data was gathered using interviews and focus group discussions from two university librarians and 12 library head of sections respectively. Documents of the two university libraries; KeMU library and MUST library were also analyzed.

The chapter presented the findings in accordance to the study variables. The findings indicated that university libraries have responded to disruptive forces by building staff capacity, budgeting for with resources acquisition and designing of new products. On technology measures put in place, they have adopted to remote access software, my loft software, anti-plagiarism software, e- resources and social media platforms. On cooperation initiative measures, Libraries have fostered good working relationships with the management, faculty and students and established themselves in consortium (KLISC). Challenges encountered in engaging stakeholders are lack of understanding by the top management, lack of cooperation by faculty, and lack of scholarly mentality by students. On nature of capacity building programs, Strategies are in place to ensure regular staff trainings. Capacity building is also accomplished through staff training, mentorship and coaching, delegation of duties and measuring effectiveness by appraisal. Libraries are also able to facilitate resource sharing by joining consortia and through signing MOUs with different stakeholders and feedback.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

The study findings, conclusions and recommendations are summarized in this chapter. The purpose of the study was to analyze the responsiveness by librarians to disruptive forces affecting university libraries in Meru County with a view to providing best measures/practices on how they can successfully re-align libraries with the new frontier. This study is guided by a combination of Technology Organization Environment Model (TOE) and the organization theory. The study adopted qualitative research design. The unit of analysis was KeMU and MUST university libraries and the unit of observation was 15 university library staff, specifically, two university library heads and 13 heads of library section. However, 14 respondents participated. A census of all the respondents was done. Qualitative data was collected using interview guides, focus groups and document checklist. Also, data was analyzed using content analysis and thematic categorization.

#### **5.2 Summary of the Findings**

A summary of the major findings arising from the analysis of these variables is presented in this section.

##### **5.2.1 Summary of the Respondents**

Based on demographic results, majority of librarians were female, had bachelor degree and were heads of sections. Specifically, Out of the fifteen sampled respondents, two university librarians and twelve library heads of sections took part in this study. The study's findings were further identified and summarized under each of the research objectives.

### **5.2.2 Strategic Responsiveness of University libraries to Disruptive Forces**

The respondents noted that capacity building of staff has helped library adapt. Budget for supporting information acquisition subscription has also been significant in helping the library to adapt. Further, ensuring that staff in the library are having the skills and competencies. Additionally, there has been design of new products. Further, establishment of relevant policies that guide how libraries respond to disruptive forces.

The libraries have also implemented strategies in order to remain competitive and responsive to disruptive forces. These include cultivating a good working relationship with the members of the faculty. Collaboration between library and the research docket. Inclusion of students in the library committee. Strengthening library's position in the consortium so that the new technology that are coming up, library participate in the negotiation. Further, libraries operate and maintain most effective strategies/ best practices in addressing disruptive forces through budgetary allocation to support functions, staff training and policy review.

### **5.2.3 Technology Responsive Measures Adopted by University Libraries**

The study sought to determine the technology responsive measures adopted by university libraries in Meru County. The findings revealed that university libraries have adopted several technology-based measures such as remote access software, my loft software, anti-plagiarism software such as Turnitin, e-resources such as e-Books and e-journals, and social media platforms such as WhatsApp to ease communication. To ensure that systems are updated, librarians ensure that library staff work closely with IT people, continuous update and upgrade of systems, system backups, and CIA practices like clear disk policy. Digital infrastructure is maintained through staff training. Further, librarians respond to technology-related changes through proposal

writing to the university management and trainings. To ensure long-term availability of digital content, the library uses servers such as Dspace. Additionally, innovative solutions currently being implemented to improve library's technology capabilities among the library staff include CCTV installation, in-house trainings and collection development.

#### **5.2.4 Cooperation Initiatives Measures Pursued by University Libraries**

The investigation attempted to examine cooperation initiatives measures pursued by university libraries in Meru County. According to the findings, university management helps in approving budget and approving the proposals. There is a good relationship between library and university management. There is good working relationship between library and library patrons. Issue and incidences of misbehave and breaking of library rules and regulations are minimized. The students are also in the library committee and therefore are able to bring their voice. There are people who have donated books to library thus contributing to scholarship. Library- faculty partnership enrich the collection development.

There is interlibrary borrowing and also users who feel there are resources found in other library are given introductory letters. However, there is lack of understating by the top management. There is also lack of cooperation by faculty. Students lack scholarly mentality and prefer shortcuts. Post graduate students are busy and do not even find time. For the outsiders and the suppliers, the institution does not pay on time and so some of them withhold supplying the resources that are needed. To address the cooperative concerns with different stakeholders, librarian emphasizes to management and faculty on the importance of supporting library activities. Another strategy is having good leadership, creating a learning atmosphere and appreciating the value brought on board by each staff. Additionally, having good relationship with the student

union. The student officials are the ones that have access to the voice of student, hence the need to have good working relationship with the student officials.

### **5.2.5 Nature of Capacity Building Programs Pursued by University Libraries in Meru County**

The research endeavored to assess nature of capacity building programs pursued by university libraries in Meru County. According to the findings, capacity building programs implemented by libraries are leadership training, training on customer care, training on information retrieval building and training on reference management systems. Strategies used to ensure that library staff are equipped to deliver on library services include sharpening staff skills, entrenchment in the performance contract and monitoring. To ensure opportunities are available to library personnel, library staff participate in training workshops and seminars. Implementation of capacity building programs initiatives faces several setbacks such as lack of self-motivation by staff to acquire new skills, skill gap and staff turnover especially after gaining necessary skills and experience. Further, having personal sessions with individual staff and developing good relationship with each staff helps in incorporating mentorship and coaching into the role of librarians. Benefits of mentorship include succession planning and business continuity, knowledge sharing, creation of a learning culture, organizational development and promotes problem-solving skills.

### **5.2.6 Resource Sharing Initiatives Pursued by University Libraries in Meru County**

The research sought to examine the resource sharing initiatives pursued by university libraries in Meru County. The findings indicated that libraries have adopted strategies to facilitate resource sharing among academic institutions. The library has an open standard policy such that faculty members and students from other institutions can

access materials from the library. Library staff have no issue with collaboration on resource sharing initiatives. However, some institutional policies are rigid and do not allow students from other institutions to access the digital library. Additionally, sharing involves cost and there may be no budgetary allocation that supports the sharing of information.

Best practices require that there is cooperation between libraries. There is also use of a common library management system like KOHA that enables people to browse catalogue from wherever they are. The D space system also allows access of materials in an institution's digital repository. Further, consortium negotiates the price and availability of online sources on behalf of libraries. Feedback is critical in enhancing negotiations. In determining contract's viability during negotiations, libraries are guided by user need and the technical capability. Library consortia provides services such as access to e-resources, training and negotiated products like Turnitin and Myloft for eresources access.

### **5.3 Conclusion**

The following conclusions were drawn from this study in relation with its objectives:

#### **5.3.1 Technology Responsive Measures Adopted by University Libraries**

The study concluded that university libraries have adopted several technology-based measures. These include; remote access software, my loft software, anti-plagiarism software such as Turnitin, e-resources such as e-Books and e-journals and social media platforms such as WhatsApp. The library utilizes several ways in ensuring that systems are up to date. These include; library staff work closely with IT people, continuous update and upgrade of systems, system backups and CIA practices like clear disk policy. Digital infrastructure is maintained through staff training.

Librarians respond to technology-related changes through writing management paper to the university management for financial and trainings support. The libraries use several measures to ensure the long-term availability of digital content such as D space and promotion of good working relationship with the IT people. Innovative solutions currently being implemented to improve library's technology capabilities among the library staff include CCTV installation, in-house trainings and collection development.

### **5.3.2 Cooperation Initiatives Measures Pursued by University Libraries**

The research arrived to the conclusions that university management helps in approving budget and approving the library requests. There is good working relationship between library and library patrons. The students are also in the library committee and therefore are able to bring their voice. There are people who have donated books to library thus contributing to scholarship. Library- faculty partnership enrich the collection development. There is interlibrary borrowing among institutions.

Hindrances encountered in engaging stakeholders include lack of understating by the top management, lack of cooperation by faculty, and lack of scholarly mentality by students. Cooperative challenges are addressed through engagement with top management and faculty on the importance of supporting library activities, having good leadership and creating a favorable learning atmosphere. Additionally, having good relationship with the student union.

### **5.3.3 Nature of Capacity Building Programs Pursued By University Libraries in Meru County**

The investigation found that libraries have implemented several capacity building programs including leadership training, training on customer care, training on information retrieval building and training on reference management systems.

Strategies used to ensure that library staff are equipped to deliver on library services include sharpening staff skills, and entrenchment in the performance contract. There is also monitoring such that library staff are personally in monitored and corrected when necessary. Opportunities are provided for library personnel to participate in professional development activities. For instance, library personnel are invited whenever there is a professional meeting like workshop seminars.

Effectiveness of capacity building is measured using appraisal that pushes library staff to meet the expectations. Challenges encountered when implementing capacity building programs initiatives are lack of self-motivation by staff to acquire new skills and staff turnover especially after gaining necessary skills and experience. Mentoring and coaching is achieved through personal sessions with individual staff, developing good relationship with each staff which enables them to seek help when facing any challenge. Additionally, delegation of duties to staff is critical in enhancing their performance. The benefits of mentorship and coaching include; succession planning, business continuity, knowledge sharing, creation of learning culture, organizational development, and provokes staff to look for solution in terms of the challenges they facing.

#### **5.3.4 Resource Sharing Initiatives Pursued by University Libraries in Meru County**

The analysis determined that libraries have adopted several strategies to facilitate resource sharing among academic institutions. Members of faculty and students have introduction letters that allow them to access the library. The library has an open standard policy such that faculty members and students from other institutions can access materials from the library. Library staff have no issue with collaboration on resource sharing initiatives, they are receptive and willing to cooperate. Challenges



encountered in facilitating resource sharing among different stakeholders include rigid institutional policies that do not allow students from other institutions to access the digital library. Sharing involves cost and there may be no budgetary allocation that supports the sharing of information.

Key elements of a successful negotiation and contracting process in the library include joining a consortium, which negotiates the price and availability of online sources on behalf of libraries. MOUs that set the expectations helps in ensuring successful negotiations. Feedback is also critical in enhancing negotiations. In determining which contracts are necessary, libraries are guided by user need, what needs to be addressed and the technical capability. Services and resources received through library consortia include; access to e-resources, training, negotiated products like Turnitin. The consortia conduct training for staff dealing with e resources whenever there is an emerging technology. Additionally, consortia expose libraries to new resources and technology.

### **5.3.5 Strategic Responsiveness of University libraries to Disruptive Forces**

The investigation found that librarians have come up with various strategies in order to remain responsive to disruptive forces. These strategies include capacity building of staff, increasing budget for information acquisition, ensuring staff in the library are having the skills and competencies and designing new products. Additionally, libraries have strengthened their positions in consortia to join negotiations, cultivated a good working relationship with the members of the faculty and also reviewed their policies to remain competitive. Professional development of staff, collaboration between the library and research docket and inclusion of students in the library committee were also recommended. Furthermore, libraries should develop the skills necessary to utilize and sustain the use of potential technologies, such as mobile device trends, digital resource

development and data-based decision-making in order to remain relevant in the changing information landscape.

#### **5.4 Recommendations**

The study made the following recommendations based on the findings.

##### **5.4.1 Technology responsive measures adopted by university libraries in Meru County**

The study advise library management to foster development of own solutions to library problems such as how to deal with artificial intelligence. The university library management is advised to consider use of emerging technology, coach students and other patrons on how to manage that technology, also to utilize the technology gainfully for scholarship for research and for learning. Additionally, the university management to consider developing operational procedures that are regularly reviewed and updated. Education, training and awareness campaigns to library staff need to be conducted regularly when a new technology is introduced.

##### **5.4.2 Cooperation Initiatives Measures Pursued by University Libraries in Meru County**

The analysis suggest that library management need to create awareness to top management on the importance of libraries. The library management are advised to advocate for an association chapter that brings together stakeholders in the same region. The university management to consider reviewing of cooperation policy with the intentions of providing on procedures and processes therein. Additionally, they need to make use of social media outlets to enable communication with library patrons and other stakeholders. Additionally, they are advised to lobby for expansion of library funding to accommodate more resources. The library management also need to explore

opportunities for grants and external funding to support library initiatives. Additionally, university library management to consider partnering with other university libraries in the region to share expertise, resources and create networking opportunities.

#### **5.4.3 Nature of capacity building programs pursued by university libraries in Meru County**

The study recommends that library management need to develop and host seminars/workshops focusing on the latest advancements and innovations in the library science to equip library staff with relevant skills and knowledge. The university management are advised to provide adequate budget for training and professional development needs. The library management need to review training and development policy to be in line with the current needs of the staff, faculty and students. Similarly, the library management to consider developing mechanisms for monitoring and evaluating the impact of capacity building programs in order to identify areas of improvement.

#### **5.4.4 Examine the resource sharing initiatives pursued by university libraries in Meru County**

The investigation implies that university management need to come up with the policies that are open that make the library an information center. The university management are advised to review policies so that prohibitive statements in the policy are removed to allow knowledge sharing, experience sharing and embrace community of practice. Additionally, the university management to adopt community of practice policy where people can exchange information or implement outreach and public relation programs to promote library and its services. Additionally, the university management are advised to develop an electronic resource sharing system to enable the university libraries in Meru County to access digital access from each other. Further, University librarians need to develop a resource sharing training program that can help librarians learn about

the latest resource sharing methods and technologies so they can better support the resource sharing initiatives.

#### **5.4.5 Strategic Responsiveness of University Libraries in Meru County**

The study suggest that the library management need to strengthen capacity building of staff by increasing budgets for information acquisition, ensuring staff have the necessary skills and competencies and providing professional development opportunities. Library staff are advised also to foster close relationships with members of the faculty and students by reviewing policies and including students in the library committee and to ensure that library resources are relevant and up-to-date. Additionally, they consider utilizing potential technologies such as mobile device trends, digital resource development and data-based decision-making to remain relevant. Ultimately, the librarians' to consider enhancing participation in consortia and other partnerships in order to leverage collective bargaining power and develop collaborative work with research docketts.

#### **5.4.6 Implications of findings on theories, policy and practices**

The study findings supported TOE Model argument that disruptive technologies including technology responsive measures, cooperation initiatives, capacity building programs and resource sharing initiatives enhance strategic responsiveness of university libraries. Further, the study findings agree with organizational theory postulation that strategic responsiveness to disruptive forces in university libraries is a way to alter the normal way of working and promptly applying best practices that are in line with library environmental changes for continued relevancy. The study findings revealed that universities libraries have adopted various measures to respond to disruptive forces.

This investigation has a significant influence on policy in information science. It provides policy makers including university management and Ministry of Education with important information on disruptive forces and strategic responsiveness. The analysis reveals the need to review policies on disruptive forces and strategic responsiveness. In particular, the university management and ministry of education are advised to focus on technology responsive measures, cooperation initiatives, capacity building programs and resource sharing initiatives.

The study findings inform the university library management and library staff on how best to respond to disruption forces affecting libraries. The study brings out specific practice that should change; on technology-responsive measures, librarians must invest in developing their capabilities in harnessing and utilizing new technologies to create better customer experiences, bring out efficient processes and to stay competitive. This includes automation, analytics and other digital technologies, to build better customer relationships and provide innovative services, as well as improve the operations. The library management also to focus on supporting the library with approving the budget for digital infrastructure purchase.

On capacity building programs, librarians need to create more opportunities and structures such as training and education; research and development; collaborations and exchange programs for capacity building, with a focus on learning across different organizations.

## **5.5 Recommendations for Future Studies**

The study analyzed the responsiveness by librarians to disruptive forces affecting university libraries in Meru County. The study focused on how technology responsive measures, cooperation initiatives, capacity building programs and resource sharing

initiatives relate with strategic responsiveness of university libraries. However, the study relied on qualitative analysis method, which cannot be used to empirically establish the relationship between variables. On top of qualitative approach, future studies should consider adopting quantitative approaches to determine the relationship between the independent variables and dependent variable. On resource sharing and corporation initiatives, developing innovative strategies and increasing collaboration between libraries and different stakeholders need to be looked upon.

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## APPENDICES

### Appendix I: Informed Consent Cover Letter

TO WHOM IT MAY CONCERN

RE: INFORMED CONSENT COVER LETTER

Dear.....

My name is Faith Ntinyari Gitonga, a master's student from Kenya Methodist University, in the school of Science and Technology. I am conducting a research titled 'Disruptive forces affecting libraries: analysis of strategic responsiveness of universities in Meru county, Kenya'

The purpose of the study is to analyze the responsiveness by librarians to disruptive forces affecting university libraries in Meru County with a view to providing best measures/practices on how they can successfully re-align libraries with the new frontier.

Accordingly, am kindly requesting you to participate. The research tools will be interview schedules, document analysis and focus group discussions.

Your participation in this study is voluntary and there are no risks associated with it. All information collected will be kept confidential, with your identity protected as only codes will be used instead of names. Participating in this study will offer you the following benefits:

- i. You will have the opportunity to express your thoughts, feelings, ideas, and experiences regarding librarians' responses to disruptive forces in university libraries in Meru County.
- ii. The results of the study may provide librarians, library administrators, and other stakeholders with insight into the latest trends for responding to disruptive forces in university libraries in Meru County.

I would therefore be grateful if you could kindly complete the schedule/ respond to the questions asked in this regard.

Yours respectfully,

Faith Gitonga. Phone 0702171066

Email: [faithgitongan@gmail.com](mailto:faithgitongan@gmail.com)

School of Science and technology



**Appendix II: Interview Schedule for University Librarians**

**Dear respondents,**

**Interview Schedule for university librarians on ‘Disruptive forces affecting libraries: analysis of strategic responsiveness of universities in Meru County’**

This interview schedule seeks your **thoughts, understandings, perceptions and experience** on disruptive forces affecting libraries and analysis of strategic responsiveness of university libraries in Meru County. It’s estimated to take 15 - 20 minutes to respond.

**SECTION 1: Background profile**

*The researcher will ask and fill the following questions*

a. Your gender:

- i. Male
- ii. Female
- iii. I prefer not to say

b. Your highest level of education:

- i. Diploma
- ii. Degree
- iii. Masters
- iv. Doctorate
- v. Other specify.....

c. Your library title:

- i. University Librarian
- ii. Head of section librarian
- iii. Other.....

**Section 2: Technology responsive measures adopted by university libraries**

i. What technology-based measures have been implemented in your university library to ensure the library is responsive to the changing needs of students, faculty, and staff?

.....  
.....

ii. How does your library ensure that the staff are keeping systems up-to-date with the latest security patches?

.....  
.....

iii. How do you and your library staff ensure digital infrastructure is maintained to ensure its ability to scale with growing usage?

.....  
.....

iv. How do you track technology-related changes in the environment?

.....  
.....

v. How do you respond to technology-related changes in the environment?

.....  
.....

vi. What technological measures have you implemented to ensure library resources are accessible?

.....  
.....

- vii. What kind of trainings do you pursue to ensure that library staff are adequately trained in the use of technology?  
.....  
.....
- viii. What measures has your library taken to ensure the long-term availability of digital content?  
.....  
.....
- ix. What innovative solutions currently being implemented to improve your library's technology capabilities among the library staff?  
.....  
.....
- x. What suggestions can you give to help university libraries improve technology responsive measures?  
.....  
.....

**Section 3: Cooperation initiatives measures pursued by university libraries**

- i. How the following Stakeholders engagement do benefit your library?
  - a. University top management  
.....  
.....
  - b. Library patrons  
.....  
.....
  - c. Library donors and well wishers  
.....  
.....
  - d. Library- faculty partnership  
.....  
.....
- ii. What partnerships have you established with other universities and libraries to facilitate collaboration and information sharing?

- iii. Please describe how you evaluate and monitor these partnerships  
.....  
.....
- iv. What challenges have you encountered in engaging stakeholders?  
.....  
.....
- v. What strategies have you implemented to address cooperative challenges with different stakeholders?  
.....  
.....
- vi. a) Does your library have cooperation operational policies to facilitate cooperation between library staff and other stakeholders?  
.....  
.....
- b) What strategies does the library use to ensure that cooperation operations are conducted in a timely and cost-effective manner?  
.....  
.....
- vii. What are your suggestions towards improving cooperation initiatives measures for university libraries?  
.....  
.....

**Section 4: Nature of capacity building programs pursued by university libraries in Meru County**

- i. What capacity building programs initiatives has your university library implemented in the past?  
.....  
.....
- ii. What strategies have you used to ensure that library staff are equipped to deliver on library services?  
.....  
.....
- iii. What initiatives have you undertaken to develop the skills of library personnel?  
.....  
.....
- iv. What opportunities do you provide for library personnel to participate in professional development activities?  
.....  
.....
- v. How have you incorporated new library technologies into your capacity building programs initiatives?  
.....  
.....What methods do you use to measure the effectiveness of capacity building programs initiatives?  
.....  
.....
- vi. What challenges have you encountered when implementing capacity building programs initiatives?

vii. How do you incorporate mentoring and coaching into your role as a university librarian?

.....  
.....

viii. What do you believe are the benefits of mentoring and coaching library staff?

.....  
.....

ix. How do you assess the effectiveness of library mentoring and coaching programs in your library?

.....  
.....

x. What advice would you give to other university libraries looking to implement capacity building programs?

.....  
.....

**Section 5: Resource sharing initiatives pursued by university libraries in Meru County**

i. What strategies has your library employed to facilitate resource sharing among academic institutions?

.....  
.....

ii. From your own experience, how effective have these strategies increased resource sharing?

.....  
.....

iii. How have library staff responded to the need to collaborate on resource sharing initiatives?

.....  
.....

iv. What challenges have you encountered in facilitating resource sharing among different stakeholders?

.....  
.....

v. What kind of best practices or guidelines does your university library adhere to when it comes to resource sharing?

.....  
.....

vi. What type of programs or services does your library offer to facilitate resource sharing initiatives?.....

.....

vii. What are the key elements of a successful negotiation and contracting process in the library?

.....  
.....

viii. How do you determine which contracts are necessary and which are not during negotiations and contracting library services and systems?

.....  
.....

ix. What services and resources do you get through library consortia?

x. What advice do you have for libraries considering joining library consortia?

.....  
.....

xi. What suggestions for improvement do you give in regard to resource sharing initiatives pursued in university libraries?

.....  
.....

**Section 6: Analysis of strategic responsiveness of universities in Meru County**

i. Explain how your library has adapted to the changing needs of its users in response to disruptive forces?

.....  
.....

ii. What strategies have been implemented by your library in order to remain competitive and responsive to disruptive forces?

.....  
.....

iii. How does your library endeavor to operate and maintain most effective strategies/ best practices in addressing disruptive forces?

.....  
.....

iv. What recommendations would you make to university libraries to help them strategically respond to disruptive forces?.

.....  
.....



**THANK YOU FOR SPARING YOUR TIME FOR THIS DISCUSSION. THE  
INFORMATION YOU HAVE GIVEN WILL BE KEPT CONFIDENTIAL. GOD  
BLESS YOU**

**Appendix III: Checklist for the 2 University Libraries Document Analysis**

**‘Disruptive forces affecting libraries: analysis of strategic responsiveness of universities in Meru County’**

**Section 1: Technology responsive measures adopted by university libraries in**

**Meru Countyggg**

<b>Documents (dating 12 months back)</b>	<b>Indicator to be examined</b>	<b>Comments</b>
<ul style="list-style-type: none"> <li>University library annual reports, University procurement plan, policy frameworks, subscription details, library strategic plan</li> </ul>	<ul style="list-style-type: none"> <li>Physical ICT infrastructure plan</li> <li>Policies in place</li> <li>Decisions made supporting adoption of technology</li> </ul>	
	<ul style="list-style-type: none"> <li>Integrated library systems plan, policies and subscriptions budget</li> </ul>	
	<ul style="list-style-type: none"> <li>Measures in place to ensure proper maintenance and use integrated library systems</li> </ul>	

**Section 2: Cooperation initiatives measures pursued by university libraries in**

**Meru County**

<b>Documents (dating 12 months back)</b>	<b>Indicator to be determined</b>	<b>Comments</b>
<ul style="list-style-type: none"> <li>University library annual reports, policy frameworks, Calendar of events, library strategic plan</li> </ul>	<ul style="list-style-type: none"> <li>Strategies to engage stakeholders</li> </ul>	
	<ul style="list-style-type: none"> <li>Budget allocation for cooperation</li> </ul>	
	<ul style="list-style-type: none"> <li>Library – faculty operational procedures</li> </ul>	

**Section 3: Nature of capacity building programs pursued by university libraries in Meru County**

<b>Documents to be pursued (dating 5 years back)</b>	<b>Indicator to be determined</b>	<b>Comments</b>
<ul style="list-style-type: none"> <li>University library annual reports, policy frameworks, Calendar of events, library strategic plan</li> </ul>	<ul style="list-style-type: none"> <li>Technical training opportunities</li> <li>Opportunities for short courses, workshops and seminar programs</li> </ul>	
	<ul style="list-style-type: none"> <li>Professional support e.g. scholarships, study leave</li> </ul>	
	<ul style="list-style-type: none"> <li>Mentorship programs</li> </ul>	

**Section 4: Resource sharing initiatives pursued by university libraries in Meru County**

<b>Documents to be pursued (dating 5 years back)</b>	<b>Indicator to be determined</b>	<b>Comments</b>
<ul style="list-style-type: none"> <li>University library annual reports, policy frameworks, Calendar of events, library strategic plan</li> </ul>	Budgets	
	Support	
	Procedures	

### Section 5: General comments for each variable

Variable	General remarks
<ul style="list-style-type: none"><li>• Technology responsive measures adopted by university libraries in Meru County</li></ul>	
<ul style="list-style-type: none"><li>• Cooperation initiatives measures pursued by university libraries in Meru County</li></ul>	
<ul style="list-style-type: none"><li>• Nature of capacity building programs pursued by university libraries in Meru County</li></ul>	
<ul style="list-style-type: none"><li>• Resource sharing initiatives pursued by university libraries in Meru County</li></ul>	

## **Appendix IV: Focus Group Discussions for 13 university library heads of sections on ‘Disruptive forces affecting libraries: analysis of strategic responsiveness of universities in Meru County’**

### **1. Introductory speech**

Dear head of sections librarians

Receive warm greetings

It is no secret that University libraries have experienced many changes over the years due to the impact of social, cultural, economic, political, and technological forces. User preferences, the high cost of information materials and services, the need to keep up with new technologies, and the recognition that libraries should collaborate rather than compete are all factors that have driven these changes. In the 21st century, librarians must be able to reinvent their knowledge and skills, acquire new experiences, and make new decisions in order to stay relevant in this rapidly changing landscape. They must find innovative and creative ways to do library business in order to remain competitive. This is why you are invited to for a group discussion on ‘Disruptive forces affecting libraries: analysis of strategic responsiveness of universities in Meru County’. In line with this aim, I have sought you to give the most honest answers even if you differ with others for there is no right or wrong answers. Thus, let us all of you talk, feel absolutely free to independently express your thoughts, understanding, perceptions and experiences on how you interpret matters related to the questions that will be posed. Your answers will remain confidential to this group and will not be shared with anyone outside the research team. Thank you.

### **2. How the FGDs will work**

The researcher will explain to the informants their roles in the FDG. She will shed light on what a focus group is all about and what will be discussed. The discussion will take the following steps:

**Section 1: Welcome and Self introductions**

**Section 2: Background profile**

**Researcher will fill the following questions**

d. Your gender:

- iv. Male
- v. Female
- vi. I prefer not to say

e. Your highest level of education:

- vi. Diploma
- vii. Degree
- viii. Masters
- ix. Doctorate
- x. Other specify.....

f. Your library title:

- iv. University Librarian
- v. Head of section librarian
- vi. Other.....

**Section 3: Discussion (50 Minutes)**

**Section 2: Technology responsive measures adopted by university libraries**

**(Researcher to moderate this question based on the following questions);**

- i. What should be followed when setting up new ICT infrastructure in the library?

- ii. What challenges have you faced in maintaining the physical ICT infrastructure in the library?
- iii. What maintenance plans should be put in place to ensure the physical ICT infrastructure is working properly?
- iv. What type of training do you pursue on the physical ICT infrastructure?
- v. What challenges have you encountered when using ILS?
- vi. What suggestions would you make to improve ILS?
- vii. Discuss what need to be done to ensure library personnel are up-to-date with advancements in library technology.

### **Section 3: Cooperation initiatives measures pursued by university libraries**

**(Researcher to moderate this question based on the following questions);**

- i. What types of activities have you found to be most successful in engaging corporate partners?
- ii. How do you measure the success of a cooperative relationship?
- iii. What challenges have you faced when pursuing collaborations with other organizations?
- iv. What types of organizations have you been most successful in forming partnerships with?
- v. Discuss evaluate the potential benefits of a partnership before committing to it?
- vi. How has your library worked to improve communication with stakeholders' e.g the top university management, library patrons and donors?
- vii. Discuss what needs to be done to improve cooperation and partnerships in university libraries

#### **Section 4: Nature of capacity building programs pursued by university libraries**

**(Researcher to moderate this question based on the following questions);**

- i. How have you evaluated the success of your capacity building efforts within the library?
- ii. Discuss how you have collaborated with other organizations to implement capacity building programs?
- iii. What kind of mentorship or training opportunities does the library provide that can help you gain experience?
- iv. What online courses or workshops does the library offer to help you develop the skills needed for your career?
- v. What local career fairs or events that the library participates in or supports?
- vi. What ICT courses or certifications have you looked into?

#### **Section 5: Resource sharing initiatives pursued by university libraries**

**(Researcher to moderate this question based on the following questions);**

- i. How has technology helped or hindered resource sharing initiatives?
- ii. What kinds of resources are typically shared between your university libraries and how do you ensure that they are accessible to all patrons?
- iii. How have library staff responded to resource sharing initiatives?
- iv. In what ways have resource sharing initiatives improved access to library resources and services?
- v. What are the fees associated with interlibrary loan?
- vi. How often do you host or attend conferences and seminars for idea sharing?
- vii. What topics do you typically cover in your conferences and seminars?



**Section 6: Analysis of strategic responsiveness of university libraries in Meru County**

**(Researcher to moderate this question based on the following questions);**

- i. What strategies are in place to ensure that university libraries are able to respond quickly and effectively to changes in the market and to new technologies?
- ii. What processes do you have in place to monitor customer feedback and use it to inform strategic decisions?
- iii. What strategies do you have in place to ensure that library services are sustainable in the long-term?
- iv. Discuss initiatives that the library has put in place to increase its strategic responsiveness?

**THANK YOU FOR SPARING YOUR TIME FOR THIS DISCUSSION. THE INFORMATION YOU HAVE GIVEN WILL BE KEPT CONFIDENTIAL. GOD BLESS YOU**

## Appendix V: Authorization Letter from KeMU



### KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya  
Tel: 254-064-30301/31229/30367/31171

Fax: 254-64-30162  
Email: [deanrd@kemu.ac.ke](mailto:deanrd@kemu.ac.ke)

#### DIRECTORATE OF POSTGRADUATE STUDIES

February 27, 2023

Commission Secretary,  
National Commission for Science, Technology and Innovations,  
P.O. Box 30623-00100  
**NAIROBI.**

Dear Sir/Madam,

**RE: FAITH NTINYARI GITONGA – (REG. NO. ISK-3-0408-1/2020)**

This is to confirm that the above named person is a bona fide student of Kenya Methodist University, in the School of Science and Technology, Department of Information Science undertaking a Master's Degree in Information Science. She is conducting research on; "Disruptive Forces Affecting Libraries: Analysis of Strategic Responsiveness of Universities in Meru County, Kenya".

We confirm that her research proposal has been presented and approved by the University.

In this regard, we are requesting your office to issue a research license to enable her collect data.

Any assistance accorded to her will be appreciated.



Dr. John M. Muchiri (PhD)  
Director, Postgraduate Studies

Cc: Dean SST  
CoD, IS  
Program Coordinator - IS  
Student Supervisors

