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The Digitization of Court Processes in African Regional and Subregional Judicial Institutions

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This is to certify that the doctoral study by

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Abstract

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MIT, Walden University, 2018

MIS, Pantheon-Sorbonne University, 2008

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Despite information technology (IT) officers' multiple efforts to develop reliable and efficient electronic justice (e-justice) systems, digitizing court processes still presents several quality challenges associated with IT infrastructure and literacy issues. Grounded in the principles of total quality management, the purpose of this qualitative multiple case study was to identify strategies and best practices IT officers in African regional economic communities (REC) use for digitizing regional and subregional court processes to improve African e-justice systems. The participants included four IT officers working as assistant computer system analysts (ACSA), computer system analysts (CSA), and heads of IT (HIT) in regional and subregional courts of justice with digitized court processes and located in Eastern Africa. Semistructured interviews were conducted with one ACSA, one CSA, and 2 HITs; in addition, 34 organizational documents were gathered from three case organizations and analyzed. Six main themes emerged from the thematic data analysis: involve and collaborate with all the stakeholders, formulate system requirements based on end users' needs, design the system based on a validated blueprint, create and implement a training plan, use ICT policies and procedures to achieve quality, and use an IT service helpdesk to achieve end users' satisfaction. A key recommendation is for IT officers to use end users' perception and satisfaction as quality indicators in identifying strategies for digitizing regional and subregional court processes to improve African e-justice systems. The implications for positive social change include the potential to improve court employees' job performance, facilitate access to judicial services in African RECs, and reduce case processing delays for African REC citizens.

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Dedication

> Jesus said to him, “If you can believe, all things are possible to him who believes.”
>
> --Mark 9:23

I dedicate this doctoral study to my children Sean, Eden, and Noah, for the unconditional love I see in their eyes every time I look at them. Remember that God is your strength throughout your respective lives and careers and that he will never fail you. Always do your part, stand on your faith, and leave the rest to God.

I also want to dedicate this study to my parents and relatives, in particular, my mother, Mrs. Marie Therese Drabo, and my sister Ms. Stella Drabo. They seeded this idea of doctoral studies in my mind and made me believe that I could do it. Based on your words of motivation, I was able to take my IT skills to another level.

Finally, I dedicate this doctoral study to my late friend and brother, Stephane W. Yao. I will always remember your kindness, availability, and mostly your loyalty when you were alive. May your soul rest in peace.

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My committee chair, Dr. Cheryl D. Waters; my second committee member, Dr. Constance Blanson; and my university reviewer, Dr. Bob Duhainy. This undertaking has challenged me academically, emotionally, and physically. Thank you all for your support, encouragement, and kind understanding. Furthermore, thank you to staff members and classmates at Walden University, whom I have worked and studied with these past 4 years.

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Section 1: Foundation of the Study

Digital technology has been transforming the operation of public services in several countries and regions. The ability of IT officers working in judicial institutions to embrace the digital transformation of African regional and subregional courts through the digitization of court processes depends on the strategies identified as efficient in their organization's geographic region (African Court on Human and Peoples' Rights, 2015). The digitization of court processes refers to the use of technology-based solutions such as machine learning, case management systems, process automation, online conflict resolution, and data visualization to build a more innovative justice system (Cordella & Contini, 2020; International Development Law Organization, 2020).

The lack of strategies for digitizing court processes exposed the African regional and subregional courts to new risks that are specific to digital environments and not present in the paper-based world. IT officers working as assistant computer system analysts (ACSAs), computer system analysts (CSAs), and heads of IT (HITs) in African regional and subregional judicial institutions must use clear policy goals with well-developed procedures, all based on efficient strategies to drive the digitization of their organizations' court processes. The purpose of this study was to explore the strategies that IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. The first section of this research study includes the background of the problem, problem statement, purpose statement, nature of the study, research question, definitions of terms, conceptual framework, and the significance of the study.

Background of the Problem

Electronic justice (e-justice) systems transform and provide more accessible, transparent, and efficient justice systems to communities (Shah & Gupta, 2017). As Bajandas and Ray (2018) observed, government stakeholders undertake the digitization of court processes to improve the productivity, consistency, case flow, and quality of e-justice systems. One such stakeholder is the African Court on Human and Peoples' Rights (2015), which recommended in 2015 the development of strategies for digitizing court processes to improve the delivery of justice for the African Union member states. Yet, despite the multiple efforts of IT officers, the development of strategies for digitizing court processes to create or improve e-justice systems remains a global challenge (Sousa & Guimaraes, 2017).

The digitization of court processes for an e-justice system requires the participation of critical stakeholders such as IT officers, judicial and legal practitioners, and the citizens of the concerned community (Manker, 2015). The role of the IT officer is critical in the evaluation of the stakeholders' needs and the development of strategies to maximize the quality of e-justice systems. IT officers work with other stakeholders to collect and translate their needs into electronic formats based on predefined quality standards (Raikhanova et al., 2017). The capturing of the stakeholders' needs follows an accurate analysis designed to detect and define the processes that present improvement opportunities (Bajandas & Ray, 2018). An understanding of IT officers' strategies for working with stakeholders may provide insight on ways to expand e-justice activities.

Problem Statement

The digitization of court processes involves transforming the manual procedures of filing, storing records, and managing cases into electronic procedures using information and communication technology (ICT; Gomes et al., 2018). ICT infrastructure and ICT skills development across African subregions in 2016 and 2017 were lower than 50% of the global average (International Telecommunication Union, 2017). The World Bank Group (2016) estimated that up to 70% of the African population lacks the essential ability to operate digital hardware and software. The general IT problem is that some IT officers in African regional and subregional courts experience challenges in digitizing their court processes. The specific IT problem is that some IT officers in the eight African regional economic communities (RECs) lack strategies for digitizing regional and subregional court processes to improve African e-justice systems.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. The population of this study included IT officers working as ACSAs, CSAs, and HITs in regional and subregional courts of justice with digitized court processes and located in Eastern Africa. Leaders of judicial institutions can use the findings of this study to understand strategies that IT officers can implement to digitize court processes in African regional and subregional courts. This study may contribute to positive social change as it has the potential to improve the job performance of court employees and facilitate the access and faster

processing of cases for the citizens of African RECs regardless of citizens' distributed geographic locations.

Nature of the Study

Scholarly research includes three primary methodologies, which are qualitative, quantitative, and mixed methods (Molina-Azorin, 2016). The quantitative approach relies on using statistics to explain the relationship between identified variables of a topic and predict future results (Merriam & Tisdale, 2016). Because I sought an in-depth understanding of the strategies that IT officers use for digitizing court processes versus examining the relationship between study variables, I opted against using the quantitative method. The mixed-method approach requires the use of both quantitative and qualitative methods (Molina-Azorin, 2016). I did not consider the mixed-method approach because it involves applying both research methodologies, and I had concluded that the quantitative method would not be appropriate for my study. The qualitative methodology provides insight from individual experiences to better understand a topic or phenomenon (Gelling, 2015). Consequently, I selected the qualitative methodology because I wanted to explore the experiences of individuals and obtain a detailed understanding of the strategies that IT officers use for digitizing African regional and subregional court processes.

The qualitative research methodology includes four designs, which are ethnography, narrative, phenomenology, and case study (Yilmaz, 2013). Ethnography is appropriate when the researcher focuses on an individual setting and attempts to tell a story related to the participant's cultural environment or group, based on the participant's

observation (Ryan, 2017). Ethnography was inappropriate for this study because I was not concerned with a distinct culture or cultural group. The narrative design focuses on individuals' stories across time; the researcher produces the data in a narrative format (Butina, 2015). I did not select the narrative approach as I sought to explore and understand an organization, entity, or event. The phenomenological design strictly focuses on the perceptions associated with a particular phenomenon through people's lived experiences (Matua, 2015). I did not choose the phenomenology approach because I was interested in comprehending individuals, groups, or events in a particular context. The case study design involves an in-depth inquiry into a situation in the real-world of the object of study or phenomenon of interest, with an identified population within a specific geographic area (Navroodi et al., 2016). I chose the case study design because I sought to understand and describe the strategies that IT officers in African RECs used for digitizing regional and subregional court processes.

Research Question

What strategies do IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems?

Interview/Survey Questions

1. What is your experience as an IT officer with digitizing court processes?
2. How would you describe the role of an IT officer in the digitization of court processes?
3. What is the importance of ICT infrastructure and ICT literacy in digitizing court processes?

4. How do ICT infrastructure and ICT literacy support African regional and subregional court processes?
5. What are the various factors that IT officers should consider when attempting to digitize court processes in regional and subregional judicial institutions?
6. What are some of the challenges related to the digitization of regional and subregional court processes in the African RECs?
7. What strategies do you use to ensure quality in digitizing court processes, particularly in the African regions and sub-regions?

Theoretical or Conceptual Framework

The conceptual framework adopted in this qualitative case study is total quality management (TQM). W. Edwards Deming, Joseph Juran, and Philip Crosby started the TQM movement in the United States in the 1980s following its success in Japanese industries (Alghamdi, 2016). TQM involves establishing a quality culture based on customer satisfaction, continuous improvement, and the involvement of every member of the organization (Alghamdi, 2016). The central tenets of TQM from Dedy et al.'s (2016) model include (a) top management commitment, (b) leadership, (c) teamwork, (d) training, (e) customer focus and satisfaction, (f) communication, (g) process management, (h) product design, (i) employee involvement, (j) continuous improvement.

The role of the IT officer focuses on having significant knowledge of enterprise information systems, business processes, identifying stakeholders' needs, and ensuring stakeholders' satisfaction (Mitri et al., 2017). TQM was appropriate for this research study because the characteristics of the IT officer's role overlap with the tenets of TQM.

IT officers' in-depth understanding of business processes aligns well with the continuous improvement, product design, process management, teamwork, and training aspects of TQM. Furthermore, the expertise of IT officers in identifying stakeholders' needs aligns with the customer focus and satisfaction, teamwork, employee involvement, product design, process management, and communication dimensions of TQM. The stakeholder's satisfaction is essential to TQM in the form of top-management commitment, training, customer focus, and satisfaction, which IT officers achieve by providing training to users and designing an adequate e-justice system. TQM was appropriate for this study because the role of the IT officer in digitizing court processes aligns with all the components of quality defined by TQM.

Definition of Terms

Courtroom technology: Courtroom technology is a technology-based method or system that provides a clear benefit to the judicial proceedings and court sessions (Donoghue, 2017).

Electronic case management system (ECMS): ECMS are electronic platforms with databases that contain all the inserted case details, which are systematically indexed and archived while providing multiple authorized users the ability to retrieve, transmit and view the information stored in the database (Bajandas & Ray, 2018).

Electronic court filing (e-filing): Electronic court filing is an automated process that allows the electronic submission of initial claims or complaints, pieces of evidence, briefs, and other documents via an ECMS (Bajandas & Ray, 2018).

IT officers: IT officers are specialists who help organizations to effectively and

efficiently use technology to achieve business goals, objectives, and strategies (ACT Government, 2007).

*Judicial institution***:** Judicial institution refers to a branch of a government or group of governments that are the responsible authority in charge of the interpretation of the law, adjudication of legal disputes, and administration of justice; these institutions can be courts, tribunal, or administrative bodies (Fon, 2019).

Assumptions, Limitations, and Delimitations

Several events influence research and associated outcomes. The acknowledgment and documentation of these events help to ensure integrity. Here, I considered the assumptions, limitations, and delimitations for this qualitative case study.

Assumptions

Assumptions are the conditions that the researcher accepts and considers as real and plausible without proof or verification (Twining et al., 2017). The first assumption of this study was that the designated electronic court processes in the studied judicial institutions complied with the court procedures existing in the court rules of procedures and practice directions. The second assumption of this study was that the participants would adequately represent the selected population. The last assumption was that the participants would adequately represent the case selected for this research study.

Limitations

In qualitative research studies, limitations often refer to the aspects of research that the researcher cannot control, such as errors in measurement, errors in data collection, and an inadequate number of participants (Twining et al., 2017). Reporting the

limitations of a research study is advised because it provides the required information to replicate or conduct similar studies to other researchers and a perspective to extend the findings of the study (Hemkens et al., 2016). The main limitation of this study concerned the limited number of IT officers working as ACSAs, CSAs, or HITs located and working in African regional and subregional courts. I mitigated this limitation by using the census sampling method, a type of purposeful sampling method that requires selecting all the population members. The census sampling method is appropriate for research studies with a relatively small number of cases (Etikan et al., 2016).

Delimitations

Delimitations are boundary conditions that researchers set within the context of a study to control the generalizability of the findings (Brusse et al., 2016). This research study included only regional and subregional courts located in Eastern Africa. I only considered IT officers with at least 3 years of experience and working as ACSAs, CSAs, or HITs in the case organizations or any African subregional organization over their career. Finally, I focused on judicial institutions and IT officers in Eastern Africa rather than on the overall African region.

Significance of the Study

Contribution to Information Technology Practice

IT departments in judicial institutions usually pilot the digitization of court processes to create e-justice systems and improve justice delivery to citizens with technology-based tools. The efficiency and effectiveness of e-justice systems are central to the multiple initiatives of IT departments. This study is significant to the IT practice in

that it could provide a detailed description of the strategies that IT officers in African RECs use for digitizing regional and subregional court processes to obtain reliable, affordable, efficient, and secure IT-based justice systems.

Implications for Social Change

This study has implications for social change as digitizing court processes involves the use of an e-justice system to facilitate the interactions between the population, judicial staff, legal practitioners and to provide fair and faster delivery of justice based on improved efficiency of the judicial system. E-justice systems enhance good governance, reduce corruption, and improve the transparency of judicial procedures, which are beneficial to the community and may contribute to a positive social change. Furthermore, e-justice systems reduce transaction costs and the duration of procedures (CITE). Saving both time and financial resources during judicial procedures may improve the quality of life and respect of the rights of residents of the African communities and citizens in general.

A Review of the Professional and Academic Literature

This section contains a discussion of the literature related to the digitization of court processes in judicial institutions worldwide with a specific interest in African regions and subregions. It includes a discussion of the approaches and problems that judicial institutions encounter when digitizing their court processes. This literature review also provides a critical analysis of TQM as a conceptual framework to achieve quality in digitizing court processes and a synthesis of various sources for an in-depth inquiry into the digitization of court processes in judicial institutions. I also further discuss my use of

a multiple case study research design.

Literature Search Strategy

Conducting the literature review of this qualitative case study required locating relevant research material from different sources, which included Google Scholar and Walden University Library academic research databases such as ProQuest Central, Science Direct, IEEE Xplore Digital Library, and EBSCOhost. The primary sources of this study are peer-reviewed articles and dissertations; I verified the peer-reviewed status of articles using Ulrich's Periodicals Directory. This literature review includes 259 articles, of which 224 (86.87%) are peer-reviewed, and 221 (85.32%) articles have publication dates within 5 years of expected approval of the study from Walden's chief academic officer. In this literature review, I focus on the strategies for digitizing African regional and subregional court processes. The keywords I used to find literature were *African subregional courts*, *court procedures*, *court processes*, *strategies*, *digitization*, *computerization*, *e-justice*, *e-court*, *total quality management*, *strategies for computer system analysts*, *courtroom technology*, *electronic filing*, and *case management system*. I initially focused on literature resources within the past 5 years but later widened the search because the concept of court processes digitization is still unpopular in Africa. The African Court on Human and Peoples' Rights (2015) emphasized the need for strategies to integrate technology in the delivery of justice based on each member state's needs assessment.

Digitization of Court Processes in Judicial Institutions

Digitization

Digitization refers to the process of converting materials from analog formats that humans can read into a digital format that only machines can read (Parviainen et al., 2017). Digitization is the process that converts analog content into a sequence of zeros (0s) and (1s), a binary code format readable on a computer with the possibility of storage on various digital storage media such as hard drives, compact disk read-only memory (CD ROM), and digital versatile disk read-only memory (DVD ROM). Bandi et al. (2017) stated that digitization affords access to data and information resources to several users at the same time while removing the physical location and distance constraints. Bandi et al. noted that digitization involves the use of IT tools to make resources available for different users in various remote locations and helps reduce the cost of handling. Digitization makes information accessible from a digital device anywhere, anytime, and within many different contexts.

Digitization of Processes

The digitization of processes, also known as *digitalization*, refers to the use of digital technologies to change a business model and create more value (Salkute, 2019). Fleer (2018) stated that in governments, the digitization of administrations consists of changing the administrative organization and providing standards to manage and administer the rights, duties, and preferences of the citizens. According to Buck and Eder (2018), the vulgarization of computers and digital information in administrations evolved into hybrid administrations that function with both analog and digital systems. Parviainen

et al. (2017) indicated that the literature describes digitalization as digital transformation and the ability to transform products or services into digital variants. However, Fleer (2018) stated that the question of how IT can support administrative processes has now evolved into how digital information processes can replace administrative processes, with the possibility of process automation.

Digitization of processes has also influenced the management of archives in various organizations. According to Kell and Booker (2018), the United Nations Educational Scientific and Cultural Organization (UNESCO) declared in 2011 that the process of archive management should follow an archival protocol that ensures the authenticity, reliability, integrity, and usability of archive content. Archives should remain accessible to everybody while respecting the applicable laws and rights of individuals, creators, owners, and users. The concept of information centralization is specific to archiving and the associated procedures, protocols, and information management. Kell and Booker (2018) also stated that workflow systems are central to archiving practice. Workflows are also specific to digitization processes as they allow defining specific validation steps that guide the execution of processes. Kayikci (2018) noted that digitization in logistics includes six main concepts, which are cooperation, connectivity, adaptiveness, integration, autonomous control, and cognitive improvement. Kayikci also noted that the latter all contribute to making information and communication available anywhere, anytime, in a particular context using a digital device and based on a set of data access rules. According to Eiseman et al. (2016), the case study related to the digitization undertaken in the Lillian Goldman Law Library at Yale Law School allowed

the organization, description, and analysis of notebooks in a website using a database, bibliography, inventory, and links for images. Additionally, Eiseman et al. stated that the digitization of processes underlines several essential questions related to the creation, preservation, management of information, and access to the digital images on the Litchfield Law School sources web portal.

Perspectives on Digitizing Court Processes

The digitization of judicial systems offers, in several cases, an increase in productivity, transparency, access to justice, a reduction of transaction costs, and trial length (Drossos et al., 2018). This increase in efficiency indicates that IT and e-justice systems contribute to the reduction of court case backlogs by improving productivity and access to justice. Muscalu and Hulpus's (2016) research on the digitization of court processes in developed European countries revealed that electronic workflows in courts enable faster clearance rates of cases and easier access to the judicial system. Singh et al. (2018) noted that the planning and designing of e-justice systems require ICT infrastructure and ICT training. Digitization of court processes generally consists of deploying electronic systems for the administration of justice with various perspectives, which includes one or more of the following components or features:

Electronic Case Filing. Over the years, the manual procedures of filing in courts have illustrated several limits and risks such as human error, corruption, misplaced files, and transmission delays. According to Mohamad et al. (2019), the introduction of e-filing provides several advantages, such as a tremendous increase in the speed of applications and transmission of court documents for faster disposal of cases. E-filing provides the

possibility to file anytime in a day, 7 days a week, with the instant filing receipt and allocation of application number. In addition, the e-filing system automatically checks the information provided in the electronic application over the internet before saving the latter in an approved standard format in the platform's database for future review. Shah and Gupta (2017) stated that the use of e-filing and internet service allows fewer paperwork burdens and better connectivity between case stakeholders for an improved administration of justice. However, e-filing also enables court clerks to work more efficiently as it considerably reduces the time and efforts spent to manage bundle cases. Furthermore, e-filing reduces file storage, record retrieval time frames, docketing, scheduling, and paper utilization, while providing transparency during proceedings. According to Mohamad et al. (2019), the adoption of an e-filing system and a case management system in the Malaysian justice system contributed to increasing the transparency, productivity, and efficiency of the courts, which helped in decreasing the backlog of cases.

Hassan et al. (2012) stated that South Korea began using electronic court systems in its Master Plan in 2001 with an electronic case filing system (ECFS) as the backbone of the e-court system. In 2003, the judicial electronic project announced the e-filing and serving of court documents by the end of 2004. The construction of the EFCS was fully completed and implemented for civil cases later on in 2010 for patent cases. Hassan et al. also indicated that the implementation of ECFS for other civil cases such as administrative, family, or petition filing started between 2011 and 2013. According to Bajandas and Ray (2018), ECMS provides a secured means for external persons to file

cases, submit evidence and various types of information, and access already existing records. Bajandas and Ray also stated that the implementation of the ECFS in the United States for the federal agency adjudication began in 2014 and, once stable, allowed reversing the existing situation with about 20% of the case processing time for case adjudication and 80% to gather and organize case information as well as assign cases.

Electronic Case Management System. According to Singh et al. (2018), ECMS refers to a platform that allows handling case procedures securely and systematically for the parties, court staff, officers, and judges. The purpose of the ECMS is to ensure the prompt and efficient treatment of cases. It has the ability to provide important case-related information such as the number and status of pending cases, decisions yet to be issued, the number of completed or not completed trials, statistical reports, and the status of completed cases and archives. Mohamad et al. (2019) stated that ECMS allows the automation of case processes and includes a planner to manage cases using the case application references and dates. Mohamad et al. noted that ECMS also offers the possibility to perform various tasks concurrently and speedily, facilitating the treatment of case backlogs until the complete clearance of queue.

The strategies used for the digitization of court processes aim to respond to judicial institutions' primary goal, which is the administration and delivery of justice. Bajandas and Ray (2018) argued that in the United States, the critical factor for the successful implementation of the ECMS in federal agency adjudication was to ensure that no data loss occurred during the migration, transition, and early implementation phases as case managers and data entry personnel had to operate on a hybrid system (electronic and

paper). The implementation required the recruitment of temporary employees to assist in every role in the case process for judges, law clerks, and docket management employees. Also, policy group employees contributed to the successful adoption of the ECMS.

In Europe, the Case Flow Management Net-project (CFMnet-project) is a European Union (EU)-funded research project that aimed to address the issue of court delays for a faster and more efficient flow of court procedures. In undertaking the CFMnet-project, stakeholders aimed to create a handbook and online platform articulated around identified, developed and shared best civil law practices. The project included a case management handbook with functional case flow management procedures such as electronic tools for monitoring or e-filing, and a case management improvement platform, which provided the necessary solutions for the interaction between the court stakeholders of the EU countries (Weers, 2016). According to Weers (2016), CFMnet required the collective efforts of several researchers and the visit of civil law countries of Austria, Belgium, Czech Republic, Estonia, Finland, Germany, Italy, the Netherlands, Portugal, Slovenia, Spain, and Sweden with a focus on the following areas:

- legislative measures for timeliness in civil proceedings
- judicial case management
- performance management
- use of ICT in court proceedings
- EU cross-border disputes

Bajandas and Ray (2018) noted that beyond the possibility of improving the filing procedure, submission of evidence, maintenance of records, and management of court

procedures, ECMS provides the opportunity to improve court processes. Bajandas and Ray indicated that EMCS is promising for the improvement of productivity, streamlined case flow, and reduction of case processing time, and better quality. ECMS usually operates with an integrated electronic calendar or side-by-side with electronic docketing and scheduling systems that are crucial in managing case processes. Vasista (2018) argued that another critical factor in deploying an ECMS that offers significant value is the possibility to replace failing systems in courts as ECMS relies on predefined and approved optimized processes and workflows.

The ECMS provides a self-service approach for case management and processing, which allows for the speedier treatment of cases. As previously mentioned in this section, the treatment time of cases correlates to judgment delivery delays and case backlogs. Combining an ECMS with an ECFS provides a set of essential services to the public that is necessary for real-time tracking. According to Vasista (2018), the integration of ECMS and e-filing systems within a unique e-justice or e-court management system provides value in two critical areas, which are (a) having a system that replaces individual failing systems in courts and (b) having an automated system to replace massive manual court systems. Automating manual court processes reduces data input and retrieval time while sharing data across courts and partners.

Electronic Case Record Management System. Electronic records management is a crucial element in the digitization of court processes procedure as it allows the court to generate, maintain, and operate based on the digitized records and information. Virtucio et al. (2017) argued that the failure to locate any court case documents during

court proceedings results in the impossibility to proceed, which is responsible for case backlogs and delays in the delivery of justice due to lack of evidence in the form of records. Maseh (2015) stated that during the launch of the Kenyan judiciary transformation framework in 2010 to counter accumulated case backlogs, case delays, productivity issues, and the frustration of the citizens, the Kenyan judiciary undertook to deploy an ECMS. The system included a document management module and audio recording tools to address the delays in searching and retrieving court archives and records. Many kinds of literature support that digitization has changed how government institutions operate, generate, and manage records. According to Satirah et al. (2013), the combination of an electronic case record management system with an ECMS allows better management of the whole lifecycle of physical and electronic documents or records for the following purposes:

- support the creation, editing, and management of electronic documents;
- improve the execution of processes and the organizational workflows; and
- create and maintain the link between the appropriate contextual information and the existing records to support their operation as evidence.

Electronic Docketing and Scheduling System (Tracking). According to Satirah et al. (2013), the electronic docketing and scheduling system is part of the ECMS and aims to make all case files and dockets accessible from any allowed remote location by the judges, lawyers, jurors, and involved parties. Satirah et al. noted that ECMS allows lawyers to file a case from a remote location over the internet to create docket entries. Aaltonen et al. (2015) stated that in the Finnish judicial system, it is possible to book

courtrooms using browser-based information systems that are accessible through the concerned court intranet on a centralized electronic calendar. In 2011, the Finnish government envisioned a pretrial system that would entirely rely on an electronic system, in which an automated list would handle the prosecutor's task load management.

Aaltonen et al. (2015) noted that the scheduling system for pretrial investigation allows non-complex cases in a click within an accelerated process, which offers the possibility to resolve cases in 1 to 3 days. Aaltonen et al. specified that, on the other hand, all the parties receive the docket and case scheduling-related information via electronic calendars and assistants' scheduling, offering an overlapping of suitable timeslots. During the court sessions of scheduled cases, the courtroom technology services and legal database information are available to the parties via a secured wireless network, allowing faster retrieval of information and making paper files obsolete.

Courtroom Technology. The management of court processes through the traditional manual system involves the use of massive amounts of paper and hard copies of files. Court processes cut across the two main phases of judicial procedures, which are the written and oral phases. According to Donoghue (2017), as the oral phase occurs in courtrooms, the introduction of courtroom technology helped to improve the administration and management of cases and the delivery of justice. Singh et al. (2018) stated that the use of different types of technologies in courtrooms worldwide gradually allowed expediting court processes and also improved the delivery of justice.

The digitization of court processes in courtrooms involves using technologies such as digital audio and video recording systems, electronic exhibit (e-exhibit) systems,

and video display systems. Morison and Harkens (2019) stated that in the United Kingdom (UK), the evolution from alternative dispute resolution (ADR) into online dispute resolution (ODR) revealed that technology mostly acts like a tool that assists in dispute resolution and not an autonomous system that can automatically process and settle disputes by itself. According to Donoghue (2017), the successful use of pre-recorded videotaped trials in the UK triggered the integration of emerging technologies such as laptops, computers, video recorders, and many other IT hardware and software and promoted the rollout of pre-recorded cross-examination nationally. Prescott (2017) stated that the United States (US) courtrooms also implemented digital courtroom systems that involve using technologies such as video conferencing systems for remote testimonies, online form completion, triage services, mobile access, and online case resolution systems.

Digitization of Court Processes and ICT Infrastructure and ICT Literacy Factors

The availability of technology facilitates data processing and storage, speed retrievals, archiving, authentication, recording of proceedings, and influences the efficiency of the judicial system (Wangui, 2017). According to Raikhanova et al. (2017), the initiative to develop an electronic government (e-government) platform with an integrated information system for a citizen service center in Kazakhstan revealed a need to provide access to ICT resources and ICT training to the target population. Bajandas and Ray (2018) noted that implementing an ECMS in the Federal Agency Adjudication National Center for States courts showed that ECMS could help agencies meet statutory requirements, expand public access, and improve efficiency and accuracy. Bajandas and

Ray also noted that the deployment of an ECMS requires the availability of IT tools, ICT infrastructure, and ICT training from the main stakeholders.

The development of ICT infrastructure involves two main variables: (a) the acquisition of technology and (b) the maintenance of those technologies (Bankole & Mimbi, 2017). Gomes et al. (2018) stated that the acquisition of technology concerns the procurement of ICT tools such as hardware, software, and network, while the maintenance of technology involves developing information systems and the continuous training of people to operate and support the deployed system. Consequently, digitizing court processes requires ICT infrastructure and ICT knowledge of the identified or selected workforce. According to Ramli (2017), the implementation of the e-government initiative in Malaysia encountered challenges such as the lack of expertise and skills in ICT and land law ignorance. Salkute (2019) stated that the efficient use of an e-justice platform requires start-up training and ongoing training for the users on the deployed technologies. Ramli also argued that technology usually lies in technological infrastructure, the speed, and the efficiency of the associated software.

Challenges Related to the Digitization of Court Processes

The digitization of court processes requires involving everyone in the selected judicial organization, particularly the stakeholders and the IT departments (Riley-Reid, 2015). In Malaysia, the launching of the electronic Syariah (e-Syariah) project consisted of improving the Malaysian Syariah Court's quality of services and efficiency based on technology. Ramli (2017) noted that the most critical challenge in implementing e-Syariah was to standardize and automate work processes depending on the work

processes implemented in each state due to retaining identity working culture and the resistance to change. The absence of adequate laws to support the use of technology in the delivery of justice is current and represents a serious obstacle to digitizing court processes. Thalib et al. (2017) stated that the need to use evidence in court processes through electronic media (teleconference) in the criminal courts of South and Central Districts of Jakarta, in Indonesia, triggered the amendment of the 2008 law number 11 on information and electronic transactions. Consequently, the 2016 law number 19 replaced the 2008 law number 11 and added the possibility to use several elements such as writings, sounds, images, maps, draft photographs, electronic data interchange (EDI), electronic mails, telegrams, telex, telecopy, access codes, and symbols or meaningful perforation in court procedures. Weers (2016) stated that the Quality and Innovation (QAI-project), which concerns the digitization of the civil court proceedings in the Netherlands, combined the digitization of processes efforts with the legislative reform as they both require involving the key stakeholders such as judges, court staffs and lawyers for the digital transformation.

Judges need to consider digitalizing in their core business and learn from the collaboration between legal scholars with knowledge in IT and informatics professionals who have knowledge about the administration of justice for productive and successful digitization of court processes (Wallace, 2019). The digitalization of the core business of an organization requires provisioning a change management policy to facilitate the change of professional culture and mentalities (Parviainen et al., 2017). According to Watson et al. (2017), the implementation experience of an integrated electronic case

management system in Rwanda revealed the following challenges: (a) addressing capacity constraints, (b) confronting institutional resistance to change, (c) promoting public awareness, (d) promoting access to justice, (e) adapting to scale, (f) using agile processes, (g) minimizing change requests, and (h) adapting procedural law. Consequently, the non-compliance of existing systems with electronic processes, record management methods, and archive initiatives require the creation of adequate standards and staff training.

Digitization of Court Processes in African Regional and Subregional Judicial Institutions

The second African judicial dialogue conference recommended incorporating technology in court processes in the regional, subregional, and national courts to enhance access to justice and facilitate judicial operations (The African Court on Human and Peoples' Rights, 2015). The use of ICT in developing countries' judicial institutions improves the access and delivery of justice and reduces the cost of judicial procedures (Benyekhlef et al., 2015). The second African judicial conference encouraged the use of technology-based case management processes, including electronic case filing, mobile applications, and video conferencing technology to receive evidence and testimonies (African Court on Human and Peoples' Rights, 2015).

African Regional and Subregional Courts

RECs are regional groupings of African states, which established regional courts with various jurisdictions and competencies over the years. According to Fon (2019), these regional courts include the Economic Community of West African States

(ECOWAS) Community Court of Justice (ECCJ), the East African Court of Justice (EACJ), the Common Market for Eastern and Southern Africa (COMESA) Court of Justice, and the Southern African Development Community (SADC) Tribunal. Fon (2019) stated that the most prominent African courts at the continental level include the African Court on Human and People's Rights, the Organization for the Harmonization of Business Laws, and the African Union Chambers from the trial of former Chadian dictator Hissene Habre. This study considers the African continental courts as regional courts and the REC courts as subregional courts.

African Regional and Subregional Court Procedures

Several studies attempted to determine the relationship between ICT and the performance of the judiciary. According to Bosire et al. (2018), ICT had a significant influence on the Kenyan judiciary system and affected the operational performance of their judicial system. The use of a customer-focused delivery of service system within Kenyan courts also helped in improving the level of confidence in the institution, which is a crucial factor in eliminating or reducing the lawyer-based or parties-based case delays.

The digitization of court processes aims to improve the efficiency of judicial systems based on the standardization of procedures, generation, storage of quality information, and faster access to information. According to Muscalu and Hulpus (2016), the strategy for digitizing court procedures considers the four major areas, which are (a) the efficiency of judicial procedures, (b) the increase of the level of transparency, (c) the improvement of the level of information security, (d) the integration of human capital,

financial and material resources. According to Weers (2016), digital court procedures allow collecting an immense amount of data while improving courts' performance in real-time for human resources, backlogs, efficiency, and quality of decisions.

Digitization of African Regional and Subregional Court Processes, ICT Infrastructure, and Literacy Issues

The most common challenges across the African continent related to the evolution of several business areas are the infrastructure constraints and the ICT skills gap (African Development Bank, 2014; International Telecommunication Union, 2017). The ratio of development fluctuates depending on the region. The African Development Bank specified that in the East African Region, the existence of affordable and sustainable ICT infrastructure involves a 60% mobile penetration and a low internet penetration of 15% due to limited cable installation and repetitious power outage . The usage of computer equipment and accessories with a wired or wireless internet access point represents the underlying technology for digitizing court processes. In the Western African region, several countries also suffer from a lack of ICT infrastructure and low ICT literacy. The African Development Bank published that in 2008, the Nigerian government initiated a project of an integrated personnel and payroll information system (IPPIS) to reduce fraud and increase accountability in payroll administration and human resources recording. Additionally, the African Development Bank announced that the implementation of the project revealed that in addition to endemic power issues and lack of infrastructure, Nigeria needs to develop ICT skills and literacy using educational initiatives and dedicated training programs for student and business owners.

Developing countries do not usually have sufficient infrastructure to satisfy the needs of providing electronic services (e-services), such as in judiciary administrations (Vasista, 2018). According to Fon (2019), infrastructure development is crucial for an African judicial system, which includes regional and subregional economic community courts such as the AfCHPR, ECCJ, COMESA, OHADA, and CCJA. The promotion of ICT use in courtrooms can help provide the necessary ICT infrastructure and literacy that can facilitate access to justice for individuals and reduce case backlogs in African RECs. According to Bosire et al. (2018), ICT is an enabler of justice based on the development of infrastructural improvement and the acquisition of adequate resources. The digitization of court processes implemented with ICT infrastructure and ICT literature at its center is an enabler for faster treatments of cases and administration of justice. According to Gomes et al. (2018), the acquisition of technology and the training to use these technologies positively moderates the relationship between the workforce and the production in courts

Challenges of Digitizing Court Processes in African Regional and Subregional Courts.

The digitization of processes in African regional and subregional courts involves several challenges, which include:

Infrastructure Challenges

The issue of insufficient infrastructure to fulfill the requirements for providing electronic services (e-services) to the citizens located in developing countries also concerns the judiciary administration (Vasista, 2018). Countries such as the Republic of

Kazakhstan opted for the maximum use of public service centers (PSC) to reduce the cost of acquiring IT infrastructure for digitizing processes and services. Raikhanova et al. (2017) stated that the acquisition of ICT infrastructure for digitizing processes and services aims to provide public services to individuals and legal entities per city or region. The choice of the geographical location to deploy an e-justice system depends on the availability of the required infrastructure. According to Sousa and Guimaraes (2017), a critical step in implementing an electronic court system is the availability of enough infrastructure to implement the system.

Electric Power Supply

In several regions of the world, the power supply problem represents an essential obstacle to the smooth operation of computers and networks. In the Indian judiciary administration, the electric power supply problem remains a severe obstacle to the digitization of court processes and is responsible for case handling delays. Vasista (2018) stated that the Central Electricity Authority in India anticipated an energy deficit and peaking shortage of 10.3% and 12.95%, respectively, for the years 2011 and 2012, with the power available for only 6 to 8 hours per day in several states. Similarly, The African continent also has power supply problems. Pillot et al. (2019) stated that in 2014, the African continent counted an overall electrification rate of 42.5% with a 70% rate for urban electrification and 28.2% rate for rural electrification compared to developed countries where the respective rates mentioned above are all 100%. The power supply is a crucial requirement in the implementation of electronic systems for regional or subregional communities.

IT Literacy Challenges

The effective digitization of court processes usually presents several challenges related to the rising level of corruption, low awareness of IT technologies and resources, lack of regulation implementation, and security problems (Shah & Gupta, 2017). Bosire et al. (2018) emphasized that the understanding and transfer of knowledge usually occurred through well-structured and targeted training. The training of judicial officers and staff to use IT tools deployed for digitized court processes is required to ensure quality and operational performance. Cassim (2017) noted that as the concept of electronic information (e-information) continues to grow, lawyers need to request, produce, and manage electronic documents for the advantage of their clients over the opponents. Consequently, the deployment of e-justice services requires IT literacy from the system's internal and external users, including the judicial organization's staff and the lawyers representing the parties.

Organizational and Structural Challenges

The digitization of court processes in African regional and subregional courts present several structural challenges. According to Maseh (2015), Eastern and Southern African courts still have multiple problems with capturing and preserving court records, which include the (a) lack of organizational plans for record management, (b) lack of knowledge in records and archive management, (c) insufficient awareness on the how the record management supports the organizational efficiency and accountability, (d) absence legislation, procedures, and policies to guide the management of records (e) inadequate

security and confidentiality controls, and finally (f) the inexistence or record disposal policies and strategies for records migration.

Policy Challenges

The lack of procedures for managing electronic records, which is a crucial component in the digitization of court processes, is a serious issue across the East African Region (International Records Management Trust, 2011). The design of processes and procedures usually relies on existing policies, and the digitization of court processes requires an alignment between the electronic processes and the policies of the concerned judicial organization. According to Maseh (2015), this alignment requires the adoption, endorsement, and promulgation of the policy across the organization before the digitization process. Finally, the alignment with the current business needs requires regular review of policies for more quality and efficiency.

Standardization Challenges

Digitization generally requires the standardization of processes before automation or workflow designs (Salkute, 2019). Each African regional or subregional court has its specificity in the mandate, organizational structure, court processes, rules of procedures, and community law (Fon, 2019). According to Fleer (2018), digital information environments are not compatible with ambiguity and strongly require avoiding standardization bias. It is crucial to identify and establish organizational standards before processing the digitization of business processes.

Security Challenges

A recent study related to the alignment of records management with ICT in East African governmental institutions such as courts revealed the existence of policies to manage existing paper records and not digital records (Maseh, 2015). The security of data and information technology services in the e-justice system guarantees the confidentiality, authenticity, and validity of the information (Salkute, 2019). According to Sovova et al. (2017), digital documents require access control rules and policies throughout the lifecycle of the document to avoid breaches of privacy and ensure compliance with security standards such as the Health Insurance Portability and Accountability Act (HIPAA), General Data Protection Regulation (GDPR), and others.

Total Quality Management

As the IT world continues to evolve, IT engineering continues to focus on problem-solving with customer satisfaction in mind. Alhassan et al. (2017) stated that TQM is a conceptual framework that formalizes various organized steps for continuous development. According to Milakovich (1991), TQM is a total organizational approach that focuses on customer needs and expectations based on the involvement of everyone, including managers and employees, to improve organizational processes, products, and services. I chose TQM as a conceptual framework based on an extensive review of the literature and the research question of this study, which attempts to identify the strategies that IT officers in African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. Laszlo (1997) stated that TQM uses an approach that focuses on customer satisfaction by involving everyone in the organization

and continuous improvement. Additionally, Black and Revere (2006) indicated that TQM aims to improve processes, outcomes, or services to impact the satisfaction of the customer. The digitization of courts of processes helped in improving access to courts, expediting courts procedures, and reducing case backlogs in countries such as the US, India, Kenya, and Malaysia (Greenwood & Brinkema, 2015; Krishna, 2018; Maseh, 2015; Satirah et al., 2013) and requires the involvement of all the major stakeholders to achieve quality.

Evolution of TQM

The quality improvement concept started in Japan around the end of the Second World War in the mid-1940s (Shanmugasundaram & Vikram, 2015). Black and Revere (2006) stated that the TQM movement, also known as the efforts for company-wide quality improvement, originated from W. Edwards Deming via 14 principles for quality improvement and a direction in rebuilding Japanese production around the early 1950s. Shanmugasundaram and Vikram (2015) indicated that W. Edwards Deming, the responsible for the production of quality war materials in the US during the second world war, implemented 14 principles for quality improvement in the Japanese Industries, which are as follows: (a) create consistency of purpose towards improvement, (b) adopt the new philosophy by management and workers alike, (c) do not depend on mass inspection but build quality into the product and process, (d) choose quality suppliers over low-cost suppliers to minimize variation in raw materials and supply, (e) improve consistency to reduce variation in all aspects such as planning, production, and service, (f) institute training on the job, (g) institute leadership, (h) break down barriers between

departments in the organization, (i) eliminate slogans, exhortations, and targets for zero defects and higher levels of productivity, (j) eliminate management objectives and quotas, (k) remove barriers to worker satisfaction, (l) institute self-improvement and education; and (m) keep everyone responsible for continuous improvement for improving quality especially top managers.

The Union of Japanese Scientists and Engineers (JUSE) invited Joseph M. Juran, the second American highly qualified in quality improvement, to Japan in 1954. According to Shanmugasundaram and Vikram (2015), Juran introduced the concept of trilogy, a quality management approach that refers to quality planning, quality improvement, and quality control. Shanmugasundaram and Vikram also noted that contrary to Deming, Juran focused on a top-down management approach with the following ten (10) steps to quality and not the worker pride and satisfaction: (a) build awareness of the opportunity to improve, (b) set-goals for improvement, (c) organize to reach goals, (d) provide training, (e) carry out projects to solve problems, (f) report progress, (g) give recognition, (h) communicate results, (i) keep score, (j) Maintain momentum by making annual improvement part of the regular systems and processes of the company.

The quality pioneers continued with the evolution of quality management in the 1960s with the introduction of risk management into the process. Weckenmann et al. (2015) stated that the introduction of risk analysis allowed managers to identify the causes of quality failures and reduce the probability of additional cost due to poor quality of products and services. Cwiklicki (2016) noted that during the same period, the addition

of another universal perspective to quality management named total quality control (TQC) became attractive in Japan from1960 to 1965 with companies such as Toyota and Nissan. The purpose of TQC was to improve the overall quality of organizations, particularly in the manufacturing field. Singh and Singh (2015) stated that the Japanese used several quality control instruments discovered from Juran and Deming's works. During this phase of the evolution of TQM, the Japanese business community started using the TQC and quality improvement tools of Juran and Deming.

Following the adoption of TQC and quality improvement tools, the Japanese manufacturers developed a particular interest in TQM. Cwiklicki (2016) stated that Japanese manufacturers were the first to use TQM during the 1970s. Psoman and Jace (2016) argued that the early versions of TQM were similar to TQC but included several success factors, such as top management buy-in, customer orientation, stakeholder management, employee training, employee involvement, continuous improvement, and organizational change. As TQM was similar to TQC, the Japanese were the first to use the TQM framework. The additional criteria of TQM provided more quality improvement approaches and procedures to the manufacturing industry in Japan.

The success of TQM in Japan triggered the popularity of the TQM in the United States in the 1980s. According to Weckenmann et al. (2015), Deming refined TQM into a theory and noted the importance of achieving process improvement and innovation based on customer feedback and satisfaction. Faciane (2018) discussed that Deming completed the TQM model in the 1980s with a holistic approach that included a method flexible enough for innovation or improvement but focused on quality and customer satisfaction.

Petersen (1999) identified Philip B. Crosby, the founder of the Quality College, conducted as another significant contributor to the TQM movement. Petersen argued that Crosby promoted the work on zero defects and developed his quality improvement process in the early 1980s and used a variety of graphic aids, well-coordinated, rapid-moving discussions, and crisp but straight to the point responses to address the questions providing from corporative executives. According to Shanmugasundaram and Vikram (2015), Crosby proposed four significant principles to the TQM movement, which are (a) the definition of quality in conformance to requirements (requirements meaning both the product and the customer's requirements), (b) the system quality is prevention, (c) the performance standard is zero defects, and (d) the measurement of quality is the price of nonconformance.

Tenets of TQM

Over time, different sources have defined TQM in several ways. Dedy et al. (2016) summarized TQM as a set of organization strategies, practices, and tools aiming for the improvement of organizational performance based on the following critical success factors:

Top Management. The leadership and commitment of the top management are essential in the implementation of TQM. According to Aquilani et al. (2017), managers must identify the most critical success factors (CSF) for their organization, situation, goals, strategies, and expected performance based on their vision and business model. Laszlo (1997) stated that the lack of support from the top management is one of the significant reasons for TQM failure in organizations. Deming (1986) indicated that the

failure to adopt quality programs is related to poor decisions of the top management. According to Obeidat et al. (2016), the commitment of high-level managers contributes to developing all staff skills and capacities to give the organization a skillful salesforce for high-level quality and customer satisfaction. The top management is also responsible for providing approval for necessary actions within the organization, which is essential in the case of project and enterprise activities or operations.

Leadership. Leadership in the organizational context involves creating an environment where everyone feels empowered to contribute to solving identified or existing problems creatively. Dedy et al. (2016) stated that leaders have the responsibility of understanding and recognizing the crucial element and provide a vision articulated around quality and meeting customer's expectations. Furthermore, Alghamdi (2016) stated that one of the critical roles of leadership is to provide empowerment for employees. Psychogios and Priporas (2007) indicated that top-management would be much reliable and obtain the collaboration of employees if they show leadership skills by making the right decisions. Kluse (2009) argued that TQM is a powerful approach for change and continuous improvement that requires leadership, commitment, a central purpose, and training to create a cultural transformation across the organization. In TQM, leadership requires involving everyone as well as adopting a teamwork approach

Continuous Improvement. TQM uses the continuous improvement factor to support the development of organizations' work performance at any time (Mohammed et al., 2017). According to Obeidat et al. (2016), the continuous improvement factor of TQM concerns all types and levels of work, from the high-level planned planning and

decision-making to the operational work elements. Psychogios and Priporas (2007) believed that with TQM, the employees involved in the process remain involved in continuous improvement, which is a characteristic of the bottom-up approach for problem-solving.

Communication. Communication refers to the exchange of information or data between two parties. It is essential to the excellent functioning of organizations as it can improve business workflows, efficiency, and overall productivity. Psychogios and Priporas (2007) stated that teamwork is critical to TQM and requires sound communication between the team members and top management. Dedy et al. (2016) emphasized that when communication is inexistent, organizations cannot function, and when communication is insufficient, it makes the entire organization suffer. Psychogios and Priporas (2007) also noted that the TQM environment requires excellent communication skills, working with groups skills, and group leadership skills.

Customer Focus and Satisfaction. Customer focus is one the most crucial piece of the production process because it defines the guidelines for producing and delivering products and services to satisfy customers' present and future needs and expectations (Deming, 1986). Additionally, Alkhalifah (2017) indicated that customer satisfaction refers to the perception of pleasure fulfillment following the delivery of a service or a product. Mohammed et al. (2017) believed that most researchers rely on customers' performance or customer satisfaction and work performance to achieve TQM in organizations.

Employee Involvement. TQM relies on an approach that allows the management

and employees to get involved in the continuous development of products and services (Obeidat et al., 2016). According to Psychogios and Priporas (2007), the involvement of everyone in the organization is a means to collect various types of needs for the deployment of a new solution or upgrade of an existing one. Powell (1995) noted that the participation of all the employees to a global quality strategy increases the flow and quality of collected information, which distributes knowledge across the organization for a better resolution of problems.

Teamwork. Teamwork refers to the process of fulfilling. Thompson (2011) stated that teamwork requires independent work and action and cooperation through set activities to achieve a common goal with the best possible outcomes. Also, Quazi et al. (2002) believed that the coordination of activities involves creating teams to improve performance and quality. Psychogios and Priporas (2007) stated that teamwork enables employees' participation in decision-making processes and plays a crucial role during the implementation of TQM.

Training. The literature review of TQM underlines the importance of training for the successful implementation of TQM. Training is the best way to implement and reinforce quality practice and can be the driver for improving the quality culture (Alghamdi, 2016). The combination of training and involving everyone is crucial for quality management practice. All the stakeholders and users need to learn about the deployed technologies for the efficient operation of the business processes. According to Obeidat et al. (2016), the presence of better employees leads most of the time to excellent performance. Al-Sarayrah et al. (2016) believed that companies need to provide

professional training to their staff to allow them to acquire the latest skills and knowledge for better efficiency and performance in their workplace. Additionally, Psychogios and Priporas (2007) argued that traditional management approaches involve the isolated resolution of problems at the department level while the TQM approach focuses on the whole organization needs and quality, not and without any departmental restrictions/

Product Design. The product design element of TQM aims to improve the quality of the product for better results for the organization (Obeidat et al., 2016). According to Kaynak and Hartley (2008), product design minimizes process differences based on the lowest number of parts and the reduction of the variety of parts, which aims to improve quality and reduce cost. TQM supports the design of products and services as well as the means to achieve them depending on the case or organization and concerns the design of products, services, or processes. Additionally, Gómez et al. (2017) stated that the product design element of TQM emphasizes the need to design products aligned with customers' needs through teamwork. Ferdousi et al. (2018) stated that improved product design contributes to enhancing quality performance and leads to competitive advantage.

Process Management. TQM focuses on continuous process development or management within organizations to provide more significant value and meet customers' needs, focusing on accepting, sharing, and responding to customers using marketing needs (Obeidat et al., 2016). TQM is a continuous means for process management and improvement through the management, employees, and overall organization for the profit and satisfaction of customers. Dedy et al. (2016) also noted that TQM is a management

attitude that focuses on internal process management to satisfy the more considerable customer value and needs. Ferdousi et al. (2018) defended that TQM practices improve and contribute to standardizing processes, enhancing competitive advantage.

Contemporary TQM

Several contemporary frameworks and processes for continuous improvement of quality initiatives rely on TQM principles. According to Hallissy et al. (2016), International Standard Organization (ISO) 9000 and the capability maturity model integration (CMMI) are two common quality management frameworks used in contemporary organizations. Joyce (2015) noted that Six Sigma is also a generally implemented framework. However, Lyu and Liang (2014) and Yoon et al. (2015) showed that most contemporary frameworks focus on a single aspect of quality, such as CMMI and Six Sigma, which both focus on software process improvement (SPI) and ISO 9000 on documentation. The latter do not offer a global view like TQM.

Capability Maturity Model Integration (CMMI). CMMI is a software process improvement framework used in various types of projects. According to Lacerda and von Wangenheim (2018), CMMI allows the assessment of an organization's maturity and guides the improvement in terms of capability, which is the ability of a process to achieve or contribute to a required goal. However, Lacerda and von Wangenheim noted that CMMI only focuses on two dimensions, which are the structure measurement and the process attribute. Additionally, Lyu and Liang (2014) indicated that the process improvement based on the CMMI approach applies to projects, departments, and enterprises to align activities with the business strategy. Consequently, the choice of this

framework for an organization should rely on how well CMMI aligns with the enterprise's needs and practices.

ISO 9000. The success of TQM in both japan and the United States created a focus of business leaders on quality, which created a need for international quality standards in the international business community (Weckenmann et al., 2015). Militaru and Zanfir (2016) argued that manufacturing managers could improve the quality of their products and their financial performance based on ISO and the production of quality products. According to Barata and Cunha (2017), the literature review of synergies between information systems/IT and quality management systems (QMS) provides alternative quality management approaches based on TQM or ISO 9000s standards. The TQM model is the foundation for the ISO 9000 international quality improvement model. ISO 9001 supports the adoption of quality principles in business processes and IT-based on context awareness and documentation. According to Busu and Busu (2017), the Deming principles of TQM exist in the quality standards of ISO and the International Electro-technical Commission (IEC). Barata and Cunha (2017) argued that the main difference is that TQM relies on an approach that depends on a systematic view of the organization, focusing on the continuous improvement of processes, while ISO 9000 relies on a series of quality standards from the ISO organization. Alghamdi (2016) stated that the primary purpose of ISO 9000 is to provide guidance and tools for companies and organizations aiming to ensure the quality of their products and services to satisfy their customers' needs.

Six Sigma. In addition to ISO, Six Sigma introduced other quality management

concepts that obtained the attention and adoption of several business leaders and communities. According to Pande et al. (2000), Six Sigma overcame some of the critical shortages of TQM, such as the failure to break down internal barriers and unclear quality. Sabet et al. (2016) stated that Six Sigma is another successful quality management approach, which demonstrated faster and better records of effectiveness for quality improvement when built on the foundation of TQM. Andersson et al. (2006) noted that six sigma is a quality management approach rooted in the management philosophy of TQM, which does not substitute to TQM but instead gathers a set of tools and concepts aligned with its principles. Raja Sreedharan et al. (2017) argued that TQM and Six Sigma are continuous improvement initiatives, which, when applied within a government, provide the best services needed for the satisfaction of the citizens of the concerned country. Bumblauskas and Kalghatgi (2018) stated that the Lean Six Sigma approach, a combination of the Lean and Six Sigma approach, was used for process improvement in the Irish court Services Dublin Circuit Court.

Supporting Conceptual Models. The Plan-do-study-act (PDSA) cycle of Shewhart (1939) that Deming (1985) later re-branded as plan-do-check-act (PDCA) relies on the approach that constant evaluation and testing are essential to quality. In the same line, Crosby (1992) promoted quality measurement, also known as baselining, quality awareness, corrective action, and removing sources of errors. PDSA and PDCA are supporting frameworks of TQM. Yoon et al. (2015) indicated that planning allows tests focused on improvement, doing is executing the test, checking is the examination of results, and acting is the initiating of action based on the analysis. The PDCA cycle uses

an approach that promotes continuous improvement, which is crucial in achieving customer satisfaction.

The system theory model relies on an approach that aims to explain behaviors of systems based on propositions, axioms, and understanding current situations, which correlates with the customer involvement aspect of TQM (Katina, 2015). Additionally, Deming's 14-point management method (1982, 1985) relates system theory as a supporting model of TQM. Systems theory involves customer involvement, continuous improvement, and customer satisfaction in the form of objects or persons working together to produce an expecting result.

The user-centered design relies on a model that focuses on users' practical knowledge to design processes of actual technology via the designer's observations (Greer & Harris, 2018). Additionally, Calvillo-Arbizu et al. (2019) stated that user-centered design maximizes users' acceptance by targeting and involving users throughout the requirement, process, and product development. Stara et al. (2018) stated that user-centered design uses a model that places users at the center of the design of processes, products, and systems. Consequently, User-centered design focuses on customer satisfaction like TQM through the design of system processes and products based on customer needs.

Contrasting Conceptual Models. Among the contemporary models for quality management, some models contrast with TQM due to differences in critical elements. Lyu and Liang (2014) showed that Six Sigma allows achieving quality based on meeting specifications and not customer satisfaction. Additionally, Lacerda and von Wangenheim

(2018) stated that CMMI contributes to achieving quality based on structure measurement and the process attribute instead of customer satisfaction. Barata and Cunha (2017) described ISO 9000 as a set of management standards to achieve quality, which does not rely on customer satisfaction.

The management by objective (MBO) is another model of quality management that contrasts with TQM. Deming (1985) showed that MBO is a model that aims to improve organizational performance based on the alignment of smaller goals throughout the organization's structure. Additionally, Deming (1985) illustrated that MBO generates a focus on short-term performance, reduced teamwork, and reduced individual morale. Islami et al. (2018) stated that MBO is a performance assessment model that focused on effectiveness, which is different from customer satisfaction. The variances between MBO and TQM make MBO a contrasting conceptual model to TQM.

TQM and the Quality of the African Regional and Subregional E-justice System

The African regional and subregional courts' main objective is to deliver justice for the African communities while respecting the established community law and time of procedures. The digitization of court processes falls inside an overall e-justice system that aims to provide more quality, effectiveness, efficiency, and speed based on the use of ICT to treat filed cases. According to Issa and Wamukoya (2018), the Dar Es Salaam Commercial Court in Tanzania used electronic record management to improve access to courts, minimize case backlogs, and increase the speed of handling filed cases. Minimizing the case backlogs and increasing the speed of case handling during the process of justice delivery are two correlated factors among several others to achieve

quality. According to Issa and Wamukoya (2018), the aim of a sound justice system relies on an approach that always treats users with fairness and respect while making them and their needs central. Dahlgaard-Park et al. (2018) stated that the described approach is similar to the essence of TQM, which consists of continuous improvement for customer satisfaction by involving everyone. The users of the justice system are also the stakeholders and in the form of customers in TQM. The fact that the justice system aims to always treat the users with fairness and respect falls into the continuous improvement scheme of TQM. The involvement of everyone during the design of e-justice systems allows formulating the adequate requirements for the deployment of a system focused on the users' needs.

Management inventions such as TQM depend on IT, which supports a response mechanism that enables communication, modeling methods, collaboration tools, and application of cutting-edge systems (Alhassan et al., 2017). Also, the multiple information exchanges between the IT officers responsible for digitizing the court processes and the entire employees involve teamwork and the top management's commitment to the system's adequacy. Dahlgaard-Park et al. (2018) stated that the successful implementation of TQM requires a start from the top of the organization, where there is a need to develop a consistent commitment to quality and leadership. The product and service design are crucial in TQM and African regional and subregional courts as they impact the quality of the product or service and the outcomes and performance of the organization.

Consequently, the TQM approach provides the foundation and guidelines tools to

support the digitization of African regional and subregional court processes. The TQM tenets based on Dedy's model, which are the top management commitment, leadership, teamwork, training, customer focus and satisfaction, communication, process management, product design, employee involvement, continuous improvement, are all applicable and will help to achieve quality concerning the digitization of court processes in African regional and subregional RECs judicial institution. According to Bolatan et al. (2016), technology plays a crucial role in quality management. It is a combination of software, hardware, and knowledge to better understand the natural world and solve identified problems.

Addressing the Quality of Digitization Efforts With TQM

TQM involves a management approach that aims to improve the performance of organizations while taking into consideration the satisfaction, loyalty, and activities of customers for the development of firm strategies (Aquilani et al., 2017). TQM provides a set of practical tools and techniques that contributes to meeting the needs and expectations of organizations such as regional and subregional courts. According to Shahmohammadi (2017), TQM allows screening individual tasks or activities and provides guidance towards process improvement, which allows achieving the desired result in a shorter time. TQM operates with the philosophy of continuous improvement, involving everyone, and customer satisfaction to increase productivity and efficiency. TQM should allow achieving quality in digitizing African regional and subregional court processes, which should affect these courts' performance by improving access to justice, reducing case backlogs, and increasing the speed for the treatment of cases. Wangui

(2017) stated that in the Kenyan judiciary system, the underutilization of IT undermines the quality, speed, and efficiency of court services, which affects the case backlog ratio, efficiency, and quality of court procedures and processes. Additionally, Wangui noted that the full integration of IT in the overall Kenyan judiciary court system and the continuous training of staff was required to reduce case delays, also known as case backlogs.

Furthermore, the users' or stakeholders' needs should always guide the digitization of court processes. Benyekhlef et al. (2015) argued that the digitization and ICT initiatives in several developing countries to improve access to justice and minimize the backlogs of cases failed due to high expectations, poor assessment of costs, inadequate implementation of IT solutions, and misidentification of the stakeholders' needs. Ultimately digitizing court processes requires a sound ICT infrastructure and significant ICT knowledge to achieve quality.

Computer System Analysts' Influence on the Quality of Digitization Efforts

In collaboration with William Edwards Deming and Lilian Gilbreth, Standard's Ben Graham developed the paperwork simplification technique in the 1940s, which consisted of developing the way data flows through a typical organization based on a set of symbols describing the various associated actions in terms of cause and effects. According to Williams (2003), the involvement of system analysts in customer problems started in the 1950s when salespeople and sales managers realized that a customer's problem required the services of analysts with the duty of applying the paperwork simplification technique to find a solution for a large number of customers in case of

problems.

Leadership, information analysis, training and education, product/service design, process management, customer focus, and satisfaction are critical success factors (CSF) assimilated to variables that contribute to determining organizations' performance through successful implementation of TQM (Aquilani et al., 2017). IT officers of African regional and subregional courts should lead the design of electronic court processes following the collection and gathering of the needs and requirements formulated by the stakeholders and vetted by the management of the organization. The careful analysis of the collected information should allow the design of adequate products or services for digitizing their court processes, which is crucial to achieving quality.

TQM involves the use of different tools and techniques to improve work performance (Mohammed et al., 2017). According to Brah and Lim (2006), there is a relationship between quality management, technology, and performances as TQM intermediates technology transfer performance and quality performance. Consequently, the successful implementation of the TQM principles in a project or organization mediates the deployment of any new technology and provides the necessary guidance to achieve quality. Khanam et al. (2013) undertook a study that revealed the importance of implementing TQM with IT resources to achieve customer satisfaction in IT and telecoms. According to Oakland (1989). TQM enables the organization and involvement of the entire organization, every department, every activity, and every individual at every level.

Critical Evaluation of Themes

The main themes in this study focus on information related to the administration and delivery of justice in African regional and subregional courts of justice. The investigations on the various approaches and challenges for digitizing court processes facilitated identifying the main themes, which included standardization, IT literacy, structural and organizational constraints, communication, policy, infrastructure, security, and quality. Most of these themes aim to ensure effectiveness and quality in the execution of court processes. ICT Infrastructure challenges are recurrent in the digitization projects as digitization involves using different methods and platforms to convert information from analog to digital and safely store data (David & Alayon, 2016). Digitization requires the protection against hacking to obtain the vetting of most judicial institutions such as American and European courts (Panezi, 2017). ICT literacy promotes record-keeping and access to legal services in court systems (Bumblauskas & Kalghatgi, 2018). Also, standardization, structural organization, and policies are factors that promote quality for process improvement, which is key to performance. TQM focuses on process improvement, customer satisfaction, and involving everyone, which guided the analysis of the themes identified in this study.

Transition and Summary

The digitization of court processes requires developing ICT infrastructure and the ability to operate digital hardware and software (International Telecommunication Union, 2017; World Bank Group, 2016). Digitizing court processes in African regional and subregional courts offer several benefits, which include the provision of the appropriate

ICT infrastructure, ICT literacy, the potential for a drastic reduction of case backlogs, and resolve access to justice issues. At any phase of the judicial procedure (written or oral), technology-based tools and workflows related to e-filing, case management, electronic records management, electric docketing, and scheduling systems, and courtroom technology can work as an overall system to provide real-time reliable and efficient solutions for the speedy delivery of justice to the African regional and subregional communities.

Identifying the best practices and strategies for successfully digitizing court processes based on TQM, the conceptual framework selected for this study, requires a deep understanding of the processes by involving everyone and keeping the stakeholders' satisfaction at the center of the study. The implementation of quality principles allows improving the organization's effectiveness and helps in the journey of achieving its mission and objectives (Raja Sreedharan et al., 2017). The literature review of this study contains various information about different types of courts that are relevant for digitizing the court processes of regional and subregional courts located in African RECs**.**

Section 2: The Project

This section includes crucial information about the research method, design, and methodologies used in this study. As the researcher, I described my role, the selection criteria for the research participants, the population sample, and the study's ethical research principles. I also explained the data collection method and clarified the processes used to perform the data analysis.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies that IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. The population of this study included IT officers working as ACSAs, CSAs, and HITs in regional and subregional courts of justice with digitized court processes and located in Eastern Africa. Leaders of judicial institutions can use the findings of this study to understand the strategies that IT officers can implement to digitize court processes in African regional and subregional courts. This study may contribute to a positive social change as it has the potential to improve the job performance of court employees and facilitate the access and faster processing of cases for citizens of the African RECs regardless of citizens' distributed geographic locations.

Role of the Researcher

In a qualitative case study, the researcher is the primary instrument of data collection and is responsible for the selection of the study site, participants, instruments for data collection, and analysis of data (Baillie, 2015; Sorsa et al., 2015). I was the

primary data collection instrument in this research study and gathered all data. I interviewed, collected, transcribed, coded, analyzed, interpreted data from all sources, and I generated this report. I was familiar with the topic because I have occupied the position of computer analyst in a Western African subregional court since 2011. I visited the Eastern African region once in 2013 but never had any previous relationship with the potential case organizations and participants for my research study.

The *Belmont Report* requires the respect of human subjects, beneficence, and justice, which are achieved using written consent forms (Hammer, 2016; Lantos & Spertus, 2014; Miracle, 2016). The participant consent form includes various information such as the purpose of the study, the possible risks, the voluntary nature of the study, and the freedom to withdraw from the study (Miracle, 2016). I used participant consent forms to comply with the *Belmont Report* principles. Additionally, I followed the processes described in the ethical research section of this study to ensure that all human participants were respected and treated ethically throughout this study.

Qualitative studies usually involve biases from the researcher during the interview (Morrison & Stomski, 2015). It is possible to mitigate the researcher's bias through the use of interview protocols and proper interview recordings (Castillo-Montoya, 2016). I followed the interview protocol attached in Appendix A to minimize these biases. In qualitative research, data collection methods from multiple types of data sources help to mitigate biases (Yüzbasioglu & Babadogan, 2016). Acceptable sources of data include interviews, documentation, historical records, and direct observation (De Massis & Kotlar, 2014). I collected and analyzed data from eligible participants from different

acceptable sources based on the multiple case study design criteria defined for this study.

The use of an interview protocol enables a researcher to have guided conversations with the participants and ensures the consistency of the data collection method (Dikko, 2016). Interview protocols ensure that the researcher asks the same questions in the same order to all participants and is consistent in repeating the same process (Dikko, 2016). According to Rivard et al. (2014), interview protocols should include five steps, which are build rapport, avoid leading questions, avoid interrupting the participant, allow long pauses, and ask follow-up questions to fill in gaps. I used the protocol included in Appendix A to ensure asking the same questions and the provision of fair treatment to all participating IT officers. Additionally, I used the protocol in Appendix A to document field notes and observations during interviews.

Participants

For this qualitative multiple case study, identifying eligible participants able to provide a detailed description of the case was essential. The eligibility criteria in a qualitative case study include the requirements to select the case participants based on their ability to provide detailed descriptions of the studied phenomenon (Hanson et al., 2016; Noyes et al., 2016). The participation eligibility criteria for this study included (a) IT officers working as ACSAs, CSAs, or HITs in any of the four Eastern African regional or subregional courts of justice for at least 3 years and (b) individuals with whom I did not have a personal or professional relationship. I established these criteria to ensure selecting the appropriate participant for this study.

Before any communication with eligible participants, the researcher must (a)

comply with the *Belmont Report*, which requires three elements of informed consent: information, comprehension, and voluntariness, and (b) obtain the approval of the relevant institutional review boards (IRB), which is responsible for the assessment of the risks and benefits of the research (Ciolfi & Kasen, 2017; Lantos & Spertus, 2014; O'Brien & Steele, 2017). Before any communication with the eligible participants, I obtained approval from the Walden University IRB. Gatekeepers are individuals who can recognize the value of a study, provide suggestions on gaining access, and have influence within an organization (Hoyland et al., 2015). Gatekeepers can facilitate contact with participants based on the trust and rapport they have with participants while emphasizing the benefits of the study (Peticca-Harris et al., 2016). I considered contacting the various case organizations through their chief registrar, who could serve as the gatekeeper and approving authority for the letter of cooperation regarding the research study. However, although gatekeepers can help with granting permission to contact potential participants, they cannot guarantee the cooperation of the participant with the researcher (McRae et al., 2013). Because of the possibility of gatekeeper failure, I used organizational information to identify potentials participants, engaged the informed consent process with potential participants, and managed the interview scheduling procedures with selected participants. I sent a consent form and a copy of the signed letter of cooperation included in Appendix B to obtain access to the selected participants.

In qualitative studies, the need to establish a working relationship with the participants is crucial to the data collection process (Alami, 2015; Haahr et al., 2014; Hoover & Morrow, 2015). Additionally, having a general discussion with the participants

before the actual interview increases trust (Patton, 2015). After receiving IRB approval and the signed letter from the gatekeepers of the various case study organizations, I had a general discussion with the participants to establish working relationships and trust with them and facilitate effective and efficient data collection. I started with a personal introduction before briefing all eligible participants about the purpose of the study, criteria for participant selection and the associated recruitment procedure, the estimated duration of the study, as well as the role of the researcher in the whole study. According to Bennett et al. (2016), open communication and honesty with participants during interviews are crucial to establish a good working relationship. Finally, I ensured that participants understood that the interviews were about their input and experience related to the case of study to prompt detailed responses.

Research Method and Design

Research refers to a conscious action to obtain new knowledge related to one or more questions concerning a particular topic using an identified technique to conduct the research (Martensson et al., 2016). The selection of the research method relies on the goals of the study and the central research question (Hayes et al., 2013). Accurate methodologies include positivism, postpositivism, interpretivism, and pragmatism (Wahyuni, 2012). However, the selection of the research design relies on the choice of the research methodology (Wahyuni, 2012).

Method

Conventional research methodologies include qualitative, quantitative, and mixed methods (Molina-Azorin, 2016). Positivism relates to the quantitative methodology,

interpretivism relates to the qualitative methodology, and pragmatism relates to mixed-method methodology (Wahyuni, 2012). As the research design selection relies on the choice of the research methodology, the use of a particular methodology only allows the selection of compatible research designs (Wells et al., 2015).

The quantitative approach involves testing theories and validating information with statistics (Merriam & Tisdale, 2016). The quantitative methodology is about measurements and the generalization of relationships among variables (Hesse-Biber, 2016). Additionally, the quantitative approach involves sampling methods and a random large selection of representative samples (Abu-Auf et al., 2016). A random selection for significant representatives is specific to quantitative studies (Annamdevula & Bellamkonda, 2016). The sampling approach for this study was purposeful and not random as the aim of this study was to explore the experience of participants to obtain an understanding of what strategies IT officers use for digitizing court processes in African regional and subregional courts of justice. The use of random sampling was contrary to the purpose of the study and the aims of the interviews with participants, as the required information was specific to a particular targeted population.

The mixed-method design requires both quantitative and qualitative methods (McCusker & Gunaydin, 2015). The selection of the mixed-method involves integrating quantitative and qualitative data during the analysis, interpretation, and presentation of results (Almalki, 2016). In the mixed-method approach, individuals provide both qualitative and quantitative data in an iterative process with various consecutive phases (Almalki, 2016; Khaldi, 2017). I did not consider the mixed-method approach because it

involved applying both research methodologies, which required natural and practical approaches simultaneously. The mixed-method required both quantitative and qualitative methods. Additionally, implementing both methodologies in a multiple case study was costly and time-consuming, which made the mixed-method undesirable for this study.

The qualitative methodology involves a subjective in-depth gathering of knowledge in words, texts, and images to explore and discover the meaning associated with the collected data and the participants' experience (Odeyemi, 2017). Additionally, the qualitative methodology aims to gain an in-depth understanding and detailed insights from the participants' thoughts to generalize the results from the data (Dey & Lehner, 2017). Qualitative research often relates to interpretivism, ontology, and epistemology (Aliyu et al., 2014). I used the qualitative data collection techniques and tools described in the data collection section of this study. The data evaluation relied on an interpretive approach correlated with the interpretivism paradigm and the qualitative research methodology. The use of the qualitative methodology in this study emanated from the combination of the explorative nature of the research and the interpretive approach for the data analysis.

Research Design

Qualitative research methodologies include four designs, which are ethnography, narrative, phenomenology, and case study (Yilmaz, 2013). Ethnographical studies focus on peoples' settings and attempt to tell a story related to the peoples' cultural environment or group based on their observation (Ryan, 2017). Additionally, ethnographic research focuses on people and cultures at the level of individuals (Dutoit,

2016). The ethnographic approach requires that the researcher observes the participant for an extended period (Lambert et al., 2013). As the focus of the study was not on the IT officers themselves or their behavior, the ethnographic approach was not an appropriate design for this research study.

Phenomenological studies rely on the understanding of the lived experiences of research participants about a phenomenon and the meaning of their experiences (Alase, 2017). Phenomenological research describes the phenomena based on the person experiencing the concept or phenomena perspective (Haegele et al., 2017). Furthermore, phenomenological studies involve the use of interviews as the primary method for data collection, focusing on the participants' lived experiences (Kruth, 2015). This study concerned the strategies that IT officers in African RECs use for regional and subregional court processes and not how IT officers experienced the strategies, which made phenomenology an inappropriate design for this research study.

A case study design involves an in-depth exploration of the topic of study or phenomenon of interest with a predefined population within a delimitated geographic area (Navroodi et al., 2016). The case study design uses an approach that allows the researcher to understand the details of the participant's thoughts related to the selected phenomenon of interest, also known as case based on multiple sources (Yohannes, 2017), to obtain numerous perspectives and validation of data. Additionally, the case study design relies on an approach that develops and explores the case based on the context and collected data to generate expected reports, codes, and themes (Yohannes, 2017). As the goal of my research study concerned the exploration of a phenomenon with selected case

organizations to develop an understanding of the case, the case study design was appropriate for my research study.

Data saturation is crucial in qualitative multiple case studies. According to Kline (2017), data saturation occurs when additional information from new participants does not continue to provide any new information, theme, subtheme, or does not continue to impact the understanding of the study topic. Ray (2017) and Visser et al. (2016) stated that methodological triangulation helps in securing data saturation based on a multistep process during the data analysis process. Additionally, member checking also helps to achieve data saturation as it allows the research participants to read the researcher's notes and interpretations for correction or additional inputs (Goodell et al., 2016). I gathered data from available consented participants by asking questions that prompted and generated productive and consistent data until the responses of participants did not continue to generate new information, themes, codes, or categories. I used member checking as another means to achieve data saturation. Finally, I reviewed the various sources of data to ensure methodological triangulation based on the approach described in the data collection section.

Population and Sampling

The population for this research was IT officers working as ACSAs, CSAs, and HITs within several regional and subregional judicial institutions with digitized court processes and located in Eastern Africa. ACSAs, CSAs, and HITs need to have worked as ACSAs, CSAs, or HITs for at least 3 years in their respective judicial institution or any similar organization in the same region. According to Hanson et al. (2016), eligibility

criteria are necessary for selecting participants in a qualitative case study as they help in defining the required case participants or population. Most of the qualitative researchers use purposeful sampling (Bogaert et al., 2015; Gokmen et al., 2017), in particular when it is difficult to randomly select samples representing the measuring tools in the case study (Palinkas et al., 2015) and when the intention is to sample rich or in-depth details about the studied case (Benoot et al., 2016).

The census sampling, a type of purposeful sampling method, is appropriate for research studies with a relatively small number of cases (Etikan et al., 2016). The census sampling is a type of purposeful sampling method that is appropriate when a researcher wants to invite all the participants that meet a particular criterion to participate in a study (Jacobson et al., 2015). The census sampling method allows selecting individuals with a high level of expertise and knowledge in research studies to share that knowledge (Pogrund et al., 2015). Based on the eligibility criteria and sampling method selected for this study, the population included IT officers working as ACSAs, CSAs, and HITs from 3 courts out of the four regional and subregional judicial institutions located in Eastern Africa. The fourth and last subregional court in Eastern Africa does not have digitized court processes yet.

Researchers achieve data saturation in qualitative case studies through a continuous collection of data until additional input from data sources does not generate any new information (Veletsianos, & Shepherdson, 2016), any patterns or themes (Coorey et al., 2017), or affect the research question (Suárez-Guerrero et al., 2016). According to Azmat and Rentschler (2017), achieving data saturation relies on the

collection of sufficient and quality information. According to Ray (2017) and Visser et al. (2016), methodological triangulation helps in securing data saturation using interviews and other sources of data as well as member checking, which provides participants the possibility to provide corrections or additional information through reading the researcher's interpretation (Goodell et al., 2016). I ensured data saturation by interviewing all the eligible participants using relevant questions until the collected information did not generate any new data. I also used methodological triangulation and member checking to ensure saturation.

Researchers have claimed that while conducting semi-structured or face-to-face interviews, the choice of the interview location based on the participant's preference is a methodological approach that provides an opportunity to structure the research process (Foley et al., 2017; Power et al., 2017; Spillane et al., 2017). According to Dempsey et al. (2016), the interview location can significantly influence the interview during face-to-face interviews. Additionally, Dempsey et al. stated that a convenient, comfortable, and quiet interview location provides a sense of privacy and provides an environment for open conversations with the participant. In collaboration with the participants, I ensured that the interviews occur in a quiet location that provided a sense of security with no additional individual present. Finally, I ensured that the audio recorder was in good working condition before the commencement of the interviews.

Ethical Research

The use of guidelines in a study to ensure ethical research is preferable in any research study. According to Miracle (2016), the Belmont Report includes three

principles related to the respect of persons, which are (a) the respect for persons, (b) beneficence, and (c) justice. Qualitative case studies interviews require the participants' informed consent to ensure the respect of the participants' rights (Chiumento et al., 2015) as it involves the intrusion into their privacy due to sometimes the nature of the questions asked. Additionally, research ethics applications should include several key factors, such as informed consent, confidentiality, anonymity, data protection, data storage, and participant/researcher safety (Barnard, 2016). I respected the three ethical concerns for human subject protection in research: respect for persons, beneficence, and justice, according to the Belmont Report, which contains the basic ethical principles for the protection of human subjects in this research through an informed consent process. I requested permission from the participants and their associated judicial institutions based on the designed letter of invitation to participants and a letter of cooperation attached as appendixes. I addressed the respect for persons with the use of a consent form, which specified that the participants could end their participation at any time without any consequences. I included a copy of the signed letter of cooperation attached in Appendix B to the potential participants based on the invitation to participate letter also attached in Appendix C. I remained available to answer any potential questions that potential participants had.

The *Belmont Report* (1979) includes three elements of informed consent, which are information, comprehension, and voluntariness, and withdrawal at any time of the interviews. I ensured that I reminded each participant about the confidential and voluntary participation and their rights to answer or refute the questions that they do not

want to address at any point in the study. Furthermore, I insisted that they could also withdraw from participating in the study before, during, or after the data collection processes without any prejudice by communicating with me. The consent form included the details of participant criteria, consent, withdrawal, incentives for participation, data retention and protection policies, and individual identity protection. The consent form also indicated that there was no compensation or any other incentive for participation in this study except the availability of the results of the study to anyone who requests a copy. I asked the potential participants to contact me using my mobile phone number or email address to inform me about their decision.

IRBs ensure that research studies on human participants address ethical issues related to the research (Cooper et al., 2016). IRBs evaluate all research studies to ensure compliance with the Belmont Report protocols (Walden University, 2015). IRBs require consent forms that match the reading level of participants in all research studies involving human subjects (Ferreria et al., 2015). Before any communication with potential participants in the study, I obtained the Walden University IRB approval from Walden University's Center for Research Quality (approval number 06-11-20-0664616). After receiving IRB approval, I established the list of eligible participants and submitted a copy of the signed letter of cooperation to them using the invitation letter to participants attached as Appendix C. Furthermore, I also included in the same email the consent form to participate in the study, which is attached as an appendix and indicated my availability to answer any arising question.

Several assurances of confidentiality and privacy throughout a research process reinforce trust and privacy (Marsh et al., 2016) by storing all data in password-protected computer files with backups in external hard drives and keeping documents in hard copies in a locked safe only accessible by the researcher. I will keep the collected data for five years to protect the participants' rights. After five years, I will destroy the hard copies in a manner that renders them irrecoverable and permanently delete soft copies of data collected during the study.

The use of pseudonyms or numerical codes helped preserve anonymity (Beltran-Aroca et al., 2016; Lin, 2016; Marsh et al., 2016). I used participants' IDs for the collected data, including interview transcripts and a spreadsheet that mapped the respective participants with each collected data. I also protected the spreadsheet with a password in a secured location along with all collected data, as described earlier in this section.

Data Collection

Instruments

The researcher is the primary data collection instrument in qualitative case studies (Gabriel, 2015; Sorsa et al., 2015) as all collected data mediates through the human instrument, the researcher (Sorsa et al., 2015). Additionally, researchers use well-defined protocols to guide research activities (De Massis & Kotlar, 2014; Petty et al., 2012; Wahyuni, 2012). Researchers generally maintain reflective journals as instruments for data collection (Spillane et al., 2017), which helps keep and manage the researcher's thoughts, decisions, and associated rationale (Ibrahim & Edgley, 2015). Maintaining

reflective journals allows keeping track of the research process and challenges from the researchers' perspectives (Orange, 2016) and their research practice based on their study content (Mayes et al., 2016). In this research study, I served as a primary data collection instrument. I used the semi-structured interview guide and interview protocol, both attached as appendices, to collect data from the participants.

The case study research and other qualitative research methods involve that researchers use well-defined protocols to guide research activities (De Massis & Kotlar, 2014; Petty et al., 2012; Wahyuni, 2012), reflective journals as instruments for data collection (Spillane et al., 2017), and multiple data sources to gain multiple perspectives and validation of data (Carter et al., 2014; Kaufmann et al., 2015; Ledo-Andión et al., 2017). I used semi-structured interview questions and the interview protocol, both included in Appendix A, to gather data from the participants. I collected the available documents, multimedia sources, or historical documents from the participants with their permission to maximize the quality of the interviews. I involved non-participants but members of each case judicial institution to collect the official documentation such as procedure manuals and other organizational documents that contain quality information. I recorded all the observations related to the participants, environment, or general context as field notes. I updated my reflexive journal throughout my research by taking notes considering the basis of decisions, thoughts, and perceptions related to the study.

Case study researchers often rely on multiple data resources to obtain multiple perspectives to maximize the reliability and validation of data through methodological triangulation (Yüzbasioglu & Babadogan, 2016). Additionally, member checking, which

consists of providing access to the research participants to read the researcher's notes and interpretations for correction or additional inputs, helps in achieving data saturation (Goodell et al., 2016). Data triangulation refers to the use of multiple sources of data to study a phenomenon (Carter et al., 2014). Furthermore, the NVivo computer-assisted qualitative data analysis software allows the researcher to collect, file, and break down various types of data, to identify the emerging themes, which are necessary for the data analysis (QSR International Pty Ltd, 2017). I collected and gathered data from interviews and organizational data to achieved data triangulation. Furthermore, I achieved methodological triangulation through the analysis of two primary sources of data, which are the semi-structured interviews and the documents related to strategies for digitizing court processes in African regional and subregional judicial institutions. I implemented the member checking approach through iterative interviews and follow-up sessions with interviewed participants to accurately review my interpretations until the exhaustion of new data. Furthermore, I used the NVivo computer-assisted qualitative data analysis software as described in the data organization technique section, interview transcription, coding through data triangulation, and methodological triangulation to achieve data reliability and validity.

Data Collection Technique

Case study researches include six types of sources, which are interviews, participant observations, direct observations, archival records, physical artifacts, and documentation (Yin, 2014). Obtaining approval from key stakeholders during the study design and planning stage is an essential step in gaining access to participants (Yin, 2014)

as well as obtaining informed consent from participants, selecting an interview location, scheduling interviews, following an interview protocol, and conducting member-checking activities (Peticca-Harris et al., 2016). After obtaining the IRB approval and organizational agreement for participation, I established a list of potential participants' names and contact information. I confirmed consent and answered arising questions for potential participants interested in participating in the research study. Furthermore, I selected the times and locations for the interviews in agreement with the participants, and I collaborated with the senior IT officers to ensure an accurate and quality analysis of the organizational documents in line with the culture of the selected judicial institutions.

Informed consent is an ethical requirement of qualitative research, which includes several aspects of the responsibility of the researcher to inform participants of varying aspects of the study (Barnard, 2016; Sanjari et al., 2016). The informed consent form notifies the participant concerning the nature of the study, procedures and participation conditions, risks, benefits, and confidentiality of the study (Judkins-Cohn et al., 2014; Peticca-Harris et al., 2016). Before the beginning of the interview sessions, I submitted a consent form and a signed copy of the letter of cooperation to each potential participant. For those who declined to participate, I filed their names in an Excel spreadsheet before moving to the next potential participant. For potential participants who responded to the consent email as a mark of an agreement to participate in the interview sessions, I agreed with them on the interview location and the protocol illustrated in Appendix A.

I used videoconference and telephone interview sessions to collect data from the participants. I explained the interview process to each participant and specified that I used

an audio recording device to record the audio of video conference interviews as well as telephone interview sessions for subsequent transcription and evaluation. After turning on my audio recording device, I announced the date and the identifying code name of the participant before interrogating the participant with the questions included in my interview protocol. Additionally, I collaborated with the senior officers of the participants' case organizations to gather their respective organizational documents related to the strategies for digitizing court processes.

Member checking consists of providing access to the research participants to read the researcher's notes and interpretations for correction or additional information (Birt et al., 2016; Goodell et al., 2016; Varpio et al., 2017). At the end of the interview session with each participant, I scheduled a follow-up session for member-checking and kept transcribed and evaluation report copies after reviewing the evaluation report with the concerned participant. Each participant had the opportunity to review, update, or confirm the information that he or she provided as wished. For the additional and follow-up sessions, I recorded the audio and updated my transcripts based on the data retention policy presented in the consent form.

Data Organization Techniques

Researchers generally choose codes, concepts, and categories to facilitate the labeling, sorting, and comparison of the collected data (Vaismoradi et al., 2016). Categorization strategies often involve analyzing similarities in data and grouping data by likeness (Plamondon et al., 2015). Reviewing and analyzing the data during the collection process ensures the quality of the data and determines the need for additional data

collection (Twining et al., 2017). Furthermore, researchers use computer-assisted qualitative data analysis software tools (CAQDAS) to perform coding systematically based upon the source material (Oliveira et al., 2016). The NVivo software is a CAQDAS that provides a systematic and ordered approach to managing and categorizing data based on the required or generated themes arising from the collected information (Singh et al., 2018). I used NVivo to organize the collected data into themes and sub-themes. I will keep the collected data in a secure, locked safe for five years. However, I labeled the collected data with the participant ID, data source, or database. Finally, I cataloged all types of collected data, which included the interview audio and transcriptions, organizational documents, field notes, and reflexive journals, all in digital format.

Data Analysis Technique

Qualitative studies rely on inductive approaches (De Massis & Kotlar, 2014; Kruth, 2015; Yilmaz, 2013) and require the transcription of data from all selected sources (Stewart & Gapp, 2017). The data analysis process allows the reduction of the amount of data to analyze based on the creation of data groups, which helps in understanding the meaning of the analyzed data (Bengtsson, 2016). Qualitative data analysis requires a transparent, meticulous, and methodical process to accurately describe phenomena from participants' views (Noble & Smith, 2015). The qualitative research approach includes four main types of triangulation, which are the data, investigator, theory, and methodological triangulation (Johnson et al., 2017; Kaufmann et al., 2015). Data triangulation involves using multiple sources of data to confirm findings and different perspectives, which adds breadth to a case of interest (Annansingh & Howell, 2016). The

methodological triangulation allows the use of two or more collection methods to analyze a comparable phenomenon (Houghton et al., 2015; Hussein, 2015) and enhances credibility based on the use of data from multiple sources and data validation. In this qualitative case study, I used the data and methodological triangulation to understand and interpret the participants' views in a reliable manner.

The qualitative research method generally involves the use of content and thematic for the analysis of the collected data (Vaismoradi et al., 2016; Wahyuni, 2012). The thematic analysis allows the rich and detailed analysis of qualitative data (Pfeiler-W et al., 2017) based on the identification of patterns in the collected data and systematic reading and re-reading of it to make a sense out of it (Connell et al., 2015), or the addition of assigned code categories (Ahmed et al., 2016; Brailas et al., 2017). The content analysis involves identifying and using categories of information or data to quantify a particular phenomenon (McCusker & Gunaydin, 2015; Vaismoradi et al., 2016; Wahyuni, 2012). I did not use content analysis. Instead, I used the thematic analysis to identify the codes and themes related to the digitization of court processes and the NVivo software, as indicated in the data organization technique section. I read through the collected data before beginning with the coding process. I based my coding on words and sentences related to strategies for digitizing court processes and the management of quality, which correlated with TQM, the conceptual framework for this study. I grouped recorded data into codes for future reference and verification before analyzing and evaluating the identified codes. I also monitored the literature and new

studies related to the identified key themes and codes to update my records with any new relevant information.

I used the InqScribe software for the transcription of the audio-recordings of interviews, member-checking sessions, and the validation of the transcriptions. Additionally, I used the software NVivo to code and performed a thematic analysis after reading through the collected data. The coding process relied on words and sentences specific to the management of processes and quality in software solutions such as requirements, ICT infrastructure, design, performance, communication, collaboration, improvement, ICT literacy, usability, satisfaction, and involvement. I kept a record of the created codes, analyzed and evaluated them against the identified themes. Furthermore, I monitored the literature related to my research topic to ensure the retrieval of any new information concerning the digitization of court processes, particularly in Eastern African regional and subregional judicial institutions. Additionally, I analyzed the results of member checking and interview sessions to capture any new or contradictory information on my research topic. Finally, I requested further member checking sessions to allow the participants to validate the identified strategies across all organizations.

Reliability and Validity

The reliability of a measure relies on its consistency, without any bias, and assesses what it is supposed to measure (Dikko, 2016). It occurs when the results to the same test question from the same participants at a different time produce similar data (Dikko, 2016). Validity concerns the measurement instruments used to implement the study concept (Zamanzadeh et al., 2015). The measurement of samples does not show

validity, but it leads to valid conclusions. In the same line, the qualitative research methodology allows the recognition of patterns and themes from the research data without compromising its integrity and dimensionality (Leung, 2015; Vaismoradi et al., 2016). However, there are four elements in the original trustworthiness framework for the measurement of validity and reliability, which are: (a) dependability, (b) credibility, (c) transferability, and the (d) confirmability.

Dependability

Dependability relies on an approach that evaluates the stability and consistency of research findings over time and across similar conditions (Kanavaki et al., 2016). Dependability estimates the quality and how useful are the data collection, analysis, and result processes (Watson & Downe, 2017). The definition and explanation of research strategies, processes, and methods and the use of audit trails, chains of evidence, and reflexive journals allow achieving dependability (Houghton et al., 2015; Wahyuni, 2012; Yilmaz, 2013). I ensured dependability by including a reflexive journal to my research data, as indicated in the data collection and data organization sections. Besides, I established the chain of evidence between the collected data and collection time for each participant using the participants' unique identifier.

Credibility

Credibility is a technique that assesses if the results are believable, appear truthful, and present a holistic view of the explored phenomenon (Amukugo et al., 2015). It is an approach that evaluates the alignment between the findings and the interpretation of the data collected from the participants (Savage & McIntosh, 2016; West & Moore III,

2015). The use of triangulation and member checking, which helps achieve saturation, also helps to establish credibility (Houghton et al., 2015; Petty et al., 2012; Yilmaz, 2013). I used the member check-checking approach with continuous follow-up with participants to review the interview transcribed data and interpretation and the research findings, as indicated earlier in the data collection section. I also used data triangulation based on the collected data from interviews and organizational documents. Furthermore, I used methodological triangulation, as indicated in the data collection section, to organize and analyze the data.

I allowed each participant to review their interview transcript and the associated interpretation to ensure that the transcription is accurate with what they meant and make any necessary updates before proceeding with the analysis of the contents. The collection of additional and complementary information may provide further credibility to the study. Furthermore, I gathered the participants' responses and cross-checked them against their insights to assess the accuracy of the research findings. I presented the final interview report, specific descriptions, and themes to the participant for their feedback on the interpretations from the interview transcripts. To ensure credibility, I requested the participant feedback on the interpretation of the interview transcripts.

Transferability

In qualitative case studies, transferability involves using a rich and detailed description of the context, setting, and participants and comprehensively reporting the study process (Bokaie et al., 2015). Transferability includes the use of sufficient detail in a study to allow other researchers to evaluate the extent to which the conclusions drawn

from such studies are transferable to other times, settings, and situations (Henry & Foss, 2015). Researchers can ensure transferability using a detailed description of the unprecedented situation, area, individuals contemplation, and straightforward analysis and dependability (Connelly, 2016). According to Hjelm et al. (2015), transferability refers to what level the findings of a study are applicable or relevant beyond the current study or in other situations or contexts. I achieved transferability by documenting the context details, field notes and reports, and the final report.

Confirmability

Confirmability refers to the indicators of the accuracy and neutrality of the research findings and interpretations of the data collected (Grieb et al., 2015). Confirmability measures how well the data support the findings (Hjelm et al., 2015). According to Wahyuni (2012), confirmability allows knowing how effectively other researchers can confirm the conclusion of the study. The common strategies to ensure confirmability include audit trails, chains of evidence, and reflexive journals (Houghton et al., 2015; Petty et al., 2012; Wahyuni, 2012; Yilmaz, 2013). According to Moon et al. (2016), the maximization of confirmability occurs if a study is replicable with similar results. Therefore, I used audit trails, which outlined the detailed procedural records that the researcher maintains to achieve confirmability. I also used reflexivity through reflexive journals that contained the nature and origin of the collected data to create a chain of evidence. Finally, I used the NVivo software to identify the reoccurring themes or codes in the collected data, which was an indicator of data saturation.

Transition and Summary

In section two, I provided a plan for conducting the study, focusing on the strategies that IT officers in African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. I provided detailed information about my role as the researcher, proposed population, research methodology and design, data collection, data organization, and data analysis. I have also discussed how to apply dependability, credibility, transferability, confirmability, and data saturation in my study. This section also includes references to various files such as the consent form, interview protocol, and interview questions, all attached in the appendix section of this study. In section three, I provided an overview of the study, study findings, applications for professional practice and implications for social change, recommendations for further study, and my various reflections.

Section 3: Application to Professional Practice and Implications for Change

Overview of Study

The purpose of this qualitative multiple case study was to explore the strategies that IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. I collected data in three regional and subregional courts located in Eastern Africa, interviewed and performed member-checking sessions with four IT officers, and collected 34 organizational documents. I interviewed IT officers working as ACSAs, CSAs, and HITs for at least 3 years in a regional and subregional court with already digitized court processes. I categorized the participants into three groups, respectively, corresponding to ACSAs, CSAs, and HITs. My findings revealed six strategies for achieving quality in digitizing court processes in Eastern African regional and subregional courts.

Presentation of the Findings

The research question related to this study was as follows: What strategies do IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems? The data analysis from this study revealed six major themes, which are (a) involve and collaborate with all the stakeholders, (b) formulate system requirements based on end users' needs, (c) design the system based on a validated blueprint, (d) create and implement a training plan, (e) use ICT policies and procedures to achieve quality, and (f) use an IT service helpdesk to achieve end users' satisfaction. These six major themes present potential strategies that IT officers in the eight African RECs use for digitizing regional and subregional court

processes to improve African e-justice systems. For easier identification, the four participants involved in this study were named Participant 1 (P1), Participant 2 (P2), Participant 3 (P3), and Participant 4 (P4), while the three case organizations were named Organization 1 (O1), Organization 2 (O2), and Organization 3 (O3). P1 and P2 are IT officers in O1 while P3 and P4 are IT officers, respectively, in O2 and O3. I present the identified themes based on their prevalence.

Theme 1: Involve and Collaborate With All the Stakeholders

Involve and collaborate with all stakeholders is the most dominant theme that emerged from the data analysis. This theme is essential as IT officers working as ACSAs, CSAs, and HITs must have direct and effective interactions and conversations with functional, technical, and managerial stakeholders. IT officers should listen to all interested parties throughout the development and usage time of the concerned product, which may help build a knowledge database. Furthermore, the continuous collaboration of IT officers with stakeholders contributes to establishing an effective communication platform, which involves exchanging critical and relevant information for the conception, development, use, and updating/upgrading of the product.

All the interviewed participants indicated that involving and collaborating with all the stakeholders is central to achieving quality, as displayed in Table 1. Additionally, all the study participants stated that IT officers should ensure that all stakeholders at all levels of the organization are comfortable obtaining their continuous involvement and collaboration through real-time interactions, available documentation, or online resources. All the study participants discussed that effective communication and

collaboration with stakeholders contribute to helping IT officers generate appropriate global and modular diagrams and establish common technical and functional terminologies based on their interactions.

Table 1

Minor Themes of Involve and Collaborate With All the Stakeholders

Major/Minor theme	Participant count	Referenced in interview	Document count	Referenced in document
Continuous collaboration	4	12	5	21
Effective communication	4	9	3	28

Furthermore, five organizational documents supported that continuous collaboration is essential to achieving quality when developing or using a product (see Table 1 for information source metrics). One product and one policy manual supported that IT officers working as ACSAs, CSAs, and HITs should be involved in projects for needs collections and refinement. Their main role is to provide business solutions based on business understanding needs information technology. Three organizational documents supported that effective communication with stakeholders helps establish clear roles and reduces development time in projects (see Table 1 for information source metrics).

Continuous collaboration and effective collaboration with all stakeholders align with TQM. According to Dawabsheh et al. (2019), TQM relies on an approach that involves everyone in the continuous development of products and services for customers' satisfaction. The involvement and collaboration with all the organization stakeholders based on a project structure are means to collect various types of needs for deploying new

solutions or upgrade existing ones (Willar, 2017). All the study participants insisted that understanding the users' needs and business goals and achieving quality entirely relies on the continuous collaboration and effective communication of IT officers with all the stakeholders (see Table 1 for information source metrics). Dilawo and Salimi (2019) stated TQM promotes sound collaboration and communication between the project team members and the stakeholders.

The findings of this research align with several tenets of TQM. All the study participants supported that IT officers working as ACSAs, CSAs, and HITs are essential to developing the digitization concept and identifying the basic elements based on the stakeholders' involvement and collaboration. According to Talapatra (2019), involving and collaborating with all the stakeholders is a quality practice that contributes to a global quality strategy to increase the flow and quality of collected information, which distributes knowledge across the organization to resolve problems better. Identifying the basic elements of processes based on efficient interactions with all the stakeholders and a deep understanding of business processes is a requirement for IT officers to achieve quality in the digitization process.

Recent literature further supports the importance of involving and collaborating with all the stakeholders. Ferdousi et al. (2018) stated that involving and communicating with all the stakeholders improves quality through refinements to production processes and minimization of process differences. Participant P1 emphasized that good communication is crucial as achieving quality when digitizing court processes involves the congregation of different professionals. The findings of this study showed that

involving and communicating with all the stakeholders is essential for digitizing African regional and subregional court processes and aligns with the principle of TQM to achieve quality.

Theme 2: Formulate System Requirements Based on End Users' Needs

Formulate system requirements based on end users' needs was the second theme that emerged from the data analysis. All the study participants supported that it is essential to formulate the system requirements based on the end users' needs, which involve interacting and collaborating with all the stakeholders. Participants P1, P2, and P4 indicated that inadequate user requirements are a major contributor to project failure. All the study participants supported that the role of IT officers working as ACSAs, CSAs, and HITs involves formulating and aligning the system requirements with the end users' needs and organization objectives. Adeola and Evans (2019) stated that IT officers work with other stakeholders to collect and translate their needs into electronic formats based on predefined quality standards. Additionally, German (2017) indicated that end users' feedback is crucial to designing a user-centered system that meets these end users' needs.

Participants P1, P3, and P4 and two organizational documents supported that stakeholders' and end users' needs should correlate with the organizational goals and objectives. According to Abu-Dalbouh (2016), feedback analysis and evaluation are necessary to ensure that a system's requirements adequately align with end users' needs and the system's scope. Participants P1 and P3 indicated that IT officers should formulate the system requirements based on end users' needs, including addressing requirements presented as a solution crucial in developing a quality system. According to Bird (2017),

well-formulated system requirements based on users' needs provide valuable guidance for developing user-centered systems. All the study participants supported that formulating the system requirements should include both the technical and functional requirements.

Table 2

Minor Themes of Formulate System Requirements Based on End Users' Needs

Major/Minor theme	Participant count	Referenced in interview	Document count	Referenced in document
Develop system requirements based on end users needs	4	18	2	13
Choose system specifications based on end users requirements	4	22	3	17

Recent literature from Chari et al. (2020) supports that user-centered software requirement documents provide information that will guide system developers to map the system's requirements against the end users' needs. The capturing of the stakeholders' needs follows an accurate analysis to detect and define the processes that present improvement opportunities (Abu-Dalbouh, 2016). Participants P2, P3, and P4 indicated that user requirements gathering and analysis procedure to realize user-centered provides critical information to the developers to develop system requirements based on end users' needs and achieve quality. TQM supports the design of products and services and the means to achieve them depending on the case or organization and concerns the design of products, services, or processes. According to Aquilani et al. (2017), TQM involves

product design and creation based on customers' needs through teamwork and collaboration.

Additional recent literature supports the importance of formulating system requirements based on end users' needs. According to Caliz et al. (2016), the quality review documents in projects provide insight into the alignment between the customer's system requirements and specifications. All the study participants supported that developing system requirements and choice of system specifications are extremely iterative. Baseer et al. (2015) stated that the software development life-cycle (SDLC) includes five crucial phases: system requirements gathering, design, development, testing, and deployment. Participants P1 and P4 expressed that the alignment of system requirements with the end users' needs and alignment of system specification with the end users requirements requires an iterative process during all the SDLC phases to achieve quality. Ultimately and throughout all the stages of SDLC and digitization of court processes, all IT officers working as ACSAs, CSAs, and HITs should ensure the alignment of the system requirement, system specification, and end users' needs to maximize quality.

Furthermore, the theme formulate system requirements based on end users' needs aligns with the principles of TQM. According to Busu and Busu (2017), the alignment between the system requirements and the consumers' needs improves the quality of goods and services based on the TQM principles. Participants P1 and P4 stated that digitizing court processes requires the alignment between the system requirements and the stakeholders' needs to achieve quality. Busu and Busu (2017) argued that

computerization provides several benefits such as time savings, lower expenses, more performance, and innovative goods and services, strategically designed to meet end users' long-term needs. The findings of this study revealed that formulating system requirements based on end users' needs is crucial for digitizing African regional and subregional court processes and aligns with the principle of TQM to achieve quality.

Theme 3: Design the System Based on a Validated Blueprint

The purpose of a blueprint is to provide a detailed description of the system's configuration and how its components operate together. Blueprints and prototyping involve experimental processes that allow the implementation of ideas into tangible forms from paper to digital (Egessa & Cherotich, 2017). The creation of a blueprint or a prototype aims to refine and validate designs to release quality products. Blueprints include proofs of concept experiments and usually require teaming a computer system analyst or programmer to work with the end users' representatives and the other stakeholders (Egessa & Cherotich, 2017). IT officers working as ACSAs, CSAs, and HITs need to understand the various features and functionalities of the expected solution to design the components of the system and the associated interactions between them. Participants P1, P3, and P4 supported that creating and validating the e-justice platform blueprint is essential to achieving quality in digitizing court processes. Participants P1 and P4 stated that system blueprints should prioritize system components' interactions (see Table 3 for information source metrics).

Participant P3 indicated that delivering prototypes and work products is critical to helping the team achieve quality. Participants P1 and P3 believed that system blueprints

should focus on high-level interactions between components and prove that they work together as a system to support the solution. However, participant P4 stated that IT officers should not use blueprints to prescribe specific patterns without any previously validated tests.

Table 3

Minor Themes of Design the System Based on a Validated Blueprint

Major/Minor theme	Participant count	Referenced in interview	Document count	Referenced in document
Prioritize interactions of system components	2	9	1	7
Align the proposed solution with end users' needs	4	15	2	12
Use of blueprint to overview end-to-end specifications	3	12	3	14

Deming (1982) noted that prototyping is a common practice, with each component of the prototype is similar to the production counterpart. Participants P1, P2, and P4 supported the use of blueprints to overview the system's global architecture, and configuration is key to successful implementations. Gómez et al. (2017) stated that TQM's product design element emphasizes designing products aligned with customers' needs using blueprints. Ferdousi et al. (2018) stated that a blueprint contributes to improved product design, enhances quality performance, and leads to competitive advantage.

Participants P2 and P4 emphasized that IT officers working as ACSAs, CSAs, and HITs should use blueprints to guide the design of the e-justice systems to digitize their court processes. The final version of products usually aligns with the last version of the

system blueprint (Deming, 1982). However, end user feedback is essential to system design. German (2017) stated that end-user feedback is a crucial element of user-centered design strategies and allows system developers to design services that meet end-user needs. Petersen and Hempler (2017) supported that rapid prototyping consists of turning ideas into real products before performing several tests, mostly based on end-user feedback. According to Boronow et al. (2017), end user feedback is essential to prototyping and system design as prototypes are iteratively revised until validation, based on end-user feedback. Participants P1, P3, and P4 stated that the system blueprint validation requires several iterations based on end user feedback. Additionally, P1, P2, and P3 supported that designing the system based on validated blueprints allows achieving customer satisfaction, continuous improvement, and therefore, quality.

According to recent literature from Petersen and Hempler (2017), design rethinking focuses on rapid prototyping and involves creating a blueprint by turning ideas into actual products that are then tested, iterated, refined, and validated based on end-user feedback. Two participants and two organizational documents supported that IT officers should prioritize system components' interactions during the system blueprint validation based on the end users' feedback. Boronow et al. (2017) indicated that developers often want to know and validate that they interpret their results correctly by incorporating interactive activities that provide immediate end-user feedback and validation during usability tests. Participants P1, P3, and P4 supported that it is crucial for IT officers working as ACSAs, CSAs, and HITs to align their proposed solution with end users' needs to achieve quality. According to Boronow et al. (2017), end users' feedback is an

essential strategy employed by developers to create user-friendly systems as blueprints are iteratively revised based on end-user feedback. These results from the end users' feedback provide help to developers, which shows how users understood the system.

Additional recent literature supports the importance of designing the system based on a validated blueprint. According to Pribeanu (2017), end users' feedback provides guidance and strategy to the developers for user-centered application design. Ienca et al. (2017) stated that efficient end-user feedback involves multiple interactions between developers and end users with several needs assessments and product adjustments. The approach mentioned above is in line with TQM, the conceptual framework used for this research study. Deming (1982) stated that using prototypes to validate end users' needs based on feedback is a common practice, with each component of the prototype being similar to the production. TQM promotes the use of diagrams, schematics, and other specifications on blueprints to achieve quality (Vosloo, 2018). Participant P3 summarized that working and designing a system with documents validated by the end users, including the system's blueprint, is central to achieving quality when developing a new system to digitize court processes. Participant P3 stated that IT officers working as ACSAs, CSAs, and HITs should use end users' involvement and feedback to validate the system's blueprint and design and achieve quality. According to Alhassan et al. (2017), the use of blueprints and prototypes is essential to build, test, and evaluate the quality of products. Ultimately, designing the system based on a validated blueprint is a critical element for digitizing African regional and subregional court processes and aligns with the principles of TQM.

Theme 4: Create and Implement a Training Plan

As it is crucial to provide training in every project that involves the deployment of a new system, it is also critical to create a training plan to guide the roll-out of the training. According to Shokri (2019), quality is a culture composed of constant drive based on training, leadership, teamwork, and involving everyone. The essence of the theme create and implement a training plan is to develop and outline a training structure to identify the appropriate training content and time frame to conduct the training. IT officers should include specific actions when developing a training plan. These actions include performing the training assessment, which will provide the trainer with clear ways and benchmarks to evaluate the training as it progresses. According to Dilawo and Salimi (2019), creating a training plan should involve identifying the training participants. IT officers need to organize end users in separate groups and teams or even with different training plans to efficiently align the training content with the end users' various roles and functions. According to Manders et al. (2016), providing self-help tools such as training, tutorials, and user guides for end users improves the end users' performance and promotes quality. Ultimately, the deployment of an electronic platform for digitizing court processes requires providing training to the end users and self-help tools such as tutorials and user guides to build quality.

All the study participants and two organizational documents supported that developing a training plan requires establishing the training goals based on its goals. Additionally, all the study participants and three organizational documents supported that designing a training plan also requires identifying the benefits for end users and

identifying the desired outcome (see Table 4 for information source metrics). Participant P3 stated that a good plan should indicate exactly how the trainer will accomplish the training goals using a topic outline and a breakdown of the topic into specific titles. Participants P1, P2, and P3 emphasized the need to make self-assistance tools such as user guides and manuals available to the users during the training to support them in their daily use of the new system after the training (see Table 4 for information source metrics). Two organizational documents also supported the need for a user guide and manual to create partial manuals, also called views, based on the organization's various end users' roles and functions.

Table 4

Minor Themes of Create and Implement a Training Plan

Major/Minor theme	Participant count	Referenced in interview	Document count	Referenced in document
Establish training goals for end users	4	15	2	17
Identify the benefits of the training for end users	4	13	3	12
Provide user guides and manuals to maximize the training's efficiency	3	9	2	8

Participants P1, P2, and P4 supported that creating a training plan to drive the end users' training promotes the delivery of the right training content to the right end-user at the right time because not all end users need the same training about the same subject. According to participant P2, setting up a training plan is time-consuming but only needs to be done once and with additional adjustments. Participant P2 also stated that at the stage of planning for training, IT officers working as ACSAs, CSAs, and HITs could

establish what type of training each group of end-user needs at a particular point in time. Therefore, IT officers can create the appropriate training program and content that aligns with the end users' needs and the organization's goals. Five organizational documents emphasized that planning for training provides a structured training program for end users and allows IT officers to make the appropriate adjustments to maximize the training's efficiency (see Table 4 for information source metrics). Ultimately, planned training increases the ability to provide a consistent and high-quality training experience for end users.

Participants P1, P2, and P4 supported that user guides and manuals play a critical role in end-user training by helping them operate a system autonomously as end-user manuals include the required information about operating the system. According to participant P3, creating and providing user manuals requires an organized structure (see Table 4 for information source metrics), a strict focus on the audience, and feedback from the end users. Additionally, participants P2 and P4 supported that structured and planned training contributes to a better user experience and system operation. Furthermore, participants P1, P2, and P4 indicated that user guides and manuals help IT officers support, train, and assist end users and are crucial to digitizing their court processes (see Table 4 for information source metrics).

Recent literature supports that creating and implementing a training plan aligns with TQM's continuous improvement and facilitates the change of processes. End-user training, a crucial TQM tenet, is also one of the critical success factors (CSF) that contribute to determining organizations' performance (Kumar & Mishra, 2020).

Participant P1 emphasized that planned and structured training contributes to improving the end users' skills to use the system, maximizing their performance, which is crucial to achieving quality. Hallissy et al. (2016) supported that one potential means of minimizing problem resolution times is to provide self-help tools such as training, tutorials, and user guides. Additionally, Zapata-Rivera et al. (2020) stated that deficiencies in training generate deficiencies in quality. Participants P1, P2, and P4 indicated that providing end users guides and manuals is essential to successfully launch a new system and its efficient operation. Ultimately, the findings of this study support that creating and implementing a training plan is crucial for IT officers to digitize court processes and aligns with the TQM's essential tenet of continuous improvement.

Theme 5: Use IT Policies and Procedures to Achieve Quality

Using IT policies and procedures to achieve quality was another prominent theme that emerged from the data analysis. Using IT policies and procedures to achieve quality promotes the use of IT policy as a roadmap to implement IT strategies, IT procedures, and support the organization’s needs, to capture, store, retrieve, transfer, and communicate using IT tools. IT policies and procedures are usually critical and complex to implement as it requires all end users to understand and comply with the formulated procedures (Chipeva et al., 2018). Most of the time, IT officers create, deploy, and enforce IT policies and procedures to support their organizations’ management and maximize their systems' efficiency (Bajandas & Ray, 2018).

All the study participants supported that IT policies and procedures are central to achieving quality (see Table 5 for information source metrics). All the study participants

also supported that IT officers working as ACSAs, CSAs, and HITs should use IT policy and procedure manuals to govern deployed IT tools and systems. Participant P1 indicated that IT policy and procedure manuals could be presented in one document or divided into two documents: one IT policy manual and one IT procedures manual. However, participant P1 insisted that both documents should reference each other in their content as IT policies and procedures are usually correlated in the scenario of two separate documents. Participants P1 and P3 indicated that the use of IT policies and procedure manuals involves creating and appropriate documentation for IT processes. Participants P1 and P4 supported that the lack of IT policy and procedure manual is a serious barrier to the growth of companies and organizations.

Table 5

Major Theme of Use IT Policies and Procedures to Achieve Quality

Major/Minor theme	Participant count	Referenced in interview	Document count	Referenced in document
Use IT policies and procedures to achieve quality	4	9	2	15

Two policy manuals indicated that IT policy documents provide a guide to accepting business strategies and objectives. Two organizational documents supported that the IT policy manual should be aligned with the organization's vision and daily operation. An IT policy manual is a document that identifies the key operations and general strategies for the actions in case of incidents (Makoza & Chigona, 2018). Participant P4 stated that IT policy manuals should be bound by the organization’s policies and clearly explain why they exist and when each rule applies. Two

organizational documents supported that IT policy documents should describe whom it covers, enforce the various rules, and describe the associated consequences using simple sentences and paragraphs.

Participants P1, P3, and two organizational documents supported that IT policy and procedures manuals help end users understand their various roles and the system's features without relying on a ‘trial and error’ approach, as crucial points are visible in well-written IT policies and procedures. Participant P3 stated that IT procedures manuals first identify specific actions and explain how and when to take them. Participant P1 added that the IT procedures manual should present emergency procedures, include warnings and cautions, and provide examples of complex scenarios. All the study participants supported that policies and procedure manuals help end users clearly understand individual and team responsibilities, save time and resources and improve quality. Two organizational documents indicated that written policies and procedures allow managers to exercise control by exception to enhance work quality rather than ‘micro-manage’ their staff. One organizational documents supported that written policies and procedures provide legal protection for all the involved parties in a contentious legal procedure based on the established policies.

Additional recent literature supports the importance of using IT policies and procedures to achieve quality. According to Shokri (2019), TQM concerns all types and levels of work, from high-level planned planning and decision-making to operational work elements. Sader et al. (2019) noted that TQM is a management attitude that focuses on internal process management to satisfy the more considerable customer value and

needs. Dilawo and Salimi (2019) defended that TQM practices improve and contribute to standardizing processes, enhancing competitive advantage. The use of IT policy and procedure manuals aligns with TQM principles as it allows maximizing quality through a better decision-making process based on established policies and procedures.

Furthermore, the use of IT policy and procedure manuals promotes the standardization of processes, which is another approach to achieving quality, aligned TQM. The findings of this study support that *using* IT policies and procedures to achieve quality aligns with the principles of the TQM.

Theme 6: Use an IT Service Helpdesk to Achieve End Users' Satisfaction

The sixth and last theme to emerge from the data analysis of this study concerns the use of an IT service helpdesk to achieve end users' satisfaction. Digitizing court processes involve that IT officers develop the required system and deliver expected solutions based on the end users' needs (Bajandas & Ray, 2018). During the interviews, several participants supported that IT officers working as ACSAs, CSAs, and HITs should define the system requirements based on the information obtained from the various communication and collaboration with all the stakeholders (see Tables 1, 2, and 3 for information source metrics). As issues usually arise during the system development stage, decisions should always aim to achieve quality based on end users' needs and satisfaction (Kumar & Mishra, 2020). All the study participants supported that IT officers should use an IT service helpdesk to provide technical assistance to end users to maximize end users' satisfaction.

All the study participants and two organizational documents supported that

providing end-user support is correlated with achieving end users' satisfaction (see Table 6 for information source metrics). Participants P2 and P4, and four organizational documents indicated that providing end-user support is essential for customer satisfaction throughout the system life cycle. Two organizational documents supported that IT officers need to deploy an IT service helpdesk or IT support platform for the end users to maximize the deployed system's efficient use.

Table 6

Minor Themes of Use an IT Service Helpdesk to Achieve End Users' Satisfaction

Major/Minor Theme	Participant count	Referenced in interview	Document count	Referenced in document
End users support	4	12	4	21
End users satisfaction	4	7	2	16

The theme use of IT service helpdesks to achieve customer satisfaction aligns with TQM, the conceptual framework selected for this study. Customer focus is one of the most critical success factors of TQM (Mandeep et al., 2019). Quality is the continuous improvement of processes, products, and services based on customer satisfaction (Dilawo & Salimi, 2019). Customer satisfaction refers to the perception of pleasure fulfillment following the delivery of a service or a product (Anil & Satish, 2019). All the study participants supported that having an available IT service helpdesk to assist end users provides a better end user experience, satisfaction, and quality. Participant P3 emphasized that the availability of end-users support services contributes to motivating end users to start or continue using solutions, and IT officers should make it mandatory. Organizational documents supported that the deployment of a service

assistance desk to support end users maximizes the solutions' usability and overall productivity.

Additional recent literature supports that using an IT service helpdesk to achieve customer satisfaction aligns with TQM. According to Dilawo and Salimi (2019), customer focus and satisfaction involves identifying the needs and expectations of the customer and measuring the level of customer satisfaction to help eliminate dissatisfaction. The availability of a helpdesk service as a support channel provides the possibility to assist, collect end-user feedback, and measure the level of customer satisfaction to achieve quality. All the study participants insisted that the availability of IT helpdesk services enhances the measurement of end users' satisfaction and the organization's commitment to achieving quality. Sader et al. (2019) stated that enhancing customer satisfaction is crucial in TQM and contributes to product and process improvement, better leadership in the decision-making process, and after all, the improvement of the overall business results. Ultimately, the findings of this study support that using an IT service helpdesk to achieve customer satisfaction is crucial for digitizing African regional and subregional court processes and aligns with TQM.

Applications to Professional Practice

The specific IT problem that formed the basis of this research was the perceived lack of strategies of IT officers in the eight African RECs for digitizing regional and subregional court processes to improve African e-justice systems. The participants in this study have succeeded in similar implementation and provided the strategies that IT officers in African regional and subregional courts could use to digitize court processes.

The exploration of the experiences of IT officers working as ACSAs, CSAs, and HITs in the selected African regional and subregional courts could serve as best practices and guidelines to other similar projects. After identifying the primary themes, I considered how other organizations and individuals could use the obtained results. Furthermore, I checked how judicial institutions located in Africa could use this study's results to update the strategies that their IT officers use for digitizing court processes. The majority of participants stated that the lack of ICT infrastructure and ICT literacy in the region remains a severe challenge for digitizing court processes. The analysis of the collected data for this study revealed six major themes, which are (a) involve and collaborate with all the stakeholders, (b) formulate system requirements based on end users' needs, (c) design the system based on a validated blueprint, (d) create and implement a training plan, (e) use ICT policies and procedures to achieve quality, and (f) use an IT Service Helpdesk to achieve end users' satisfaction.

Regional and subregional judicial institutions located in the eight African RECs can use the result of this study to guide the digitization of their court processes. The achievement of quality in digitizing court processes requires adopting policies that make end users the focus of the digitization activities. Organizational leaders in African RECs judicial institutions could use this approach of TQM as a culture to improve their court processes and daily case management operations. In this case, the end users include judges, court staff, and lawyers representing parties. All strategies for digitizing court processes should recommend that IT officers collaborate and communicate with end users to understand their needs and obtain an overall positive customer experience.

Additionally, organizational leaders should create the internal structure and organizational bodies responsible for monitoring and enforcing such policies.

IT officers working as ACSAs, CSAs, and HITs in any regional and subregional court located in African RECs can use this study's findings to redefine their quality approach from a technical and functional perspective to a customer satisfaction approach. The redefinition of their quality approach requires that IT officers involve and communicate with stakeholders to fully understand and formulate the system requirements based on the end users' or customers' needs. Additionally, designing the system based on a validated blueprint and implementing a training plan should guide and support the digitization process. Finally, using IT policies, IT procedures, and an IT Service Helpdesk as a means for continuous improvement is key to achieving quality.

During the interviews, several participants mentioned that the feedback received from end users made them reconsider some of the strategies they have used to digitize the court processes of their judicial institutions. The feedback from end users is the primary indicator of customer satisfaction and crucial information for continuous improvement. Consequently, improving the strategy for digitizing court processes relies on the end users' perception of quality and their experience starting from the expression of needs to the e-justice system's deployment.

Any organizational policy that establishes a culture of quality could follow the strategies found in this research, amongst others. Leaders should define policies that clearly state roles and responsibilities such that individuals filling those roles know their accountabilities and the accountabilities of others. To enable the intrinsic empowerment

of individuals filling the roles, organizational leaders should effectively communicate these roles and responsibilities throughout the organization. As with any policy, the implementation of these roles and responsibilities should be governed and either incented or enforced. Organizations are not the only entities that can use these results.

Implications for Social Change

The main implication for a positive social change related to this study included improved job performance of African regional and subregional courts employees, facilitated access, and faster processing of cases for the African RECs citizens regardless of their distributed geographic locations. This study supports deploying transparent and standardized quality court procedures to benefit African RECs lawyers and citizens. According to the African Court on Human and Peoples' Rights (2015), the integration of technology in court processes is necessary for economic and social development. While I expected that African judicial institutions would benefit from the outcome of this research study, many other judicial organizations located in developing countries or regions may also profit from its benefits.

The adoption of quality management as a culture in regional and subregional judicial institutions has several implications. According to Kane et al. (2017), the digitization of organizations tends to cultivate human and social conditions and promote the positive development of individuals, communities, and society. Based on best practices and pre-identified strategies for digitizing court processes, e-justice systems can assist the legal staff of courts in spending less time in court processes and maximizing the efficiency and quality of the judicial procedures. Additionally, the deployed e-justice

systems could enhance transparency and increase public confidence in African REC courts. E-justice systems would also reduce costs, stress, improved work-balance, and delivery of judicial services for the African RECs citizens.

The adoption of quality management also involves an increase in customer satisfaction. The increase in the efficiency and effectiveness of organizational staff and court procedures could result in better customer services in regional and subregional courts, improving communication with the customers and mitigating the risk of overall stress and frustration during judicial procedures. The improved quality of court procedures and communication with the end users could result in more positive feedback, customer satisfaction, and continuous improvement.

Recommendations for Action

The desire to identify strategies for IT officers for digitizing regional and subregional court processes in African RECs motivated the work presented in this qualitative case study. I have a few recommendations for action and further studies based on my findings, encountered limitations, and results. The limitations of this research study included the lack of statistical data and general information assessing the level or ratio of ICT infrastructure development, ICT literacy, and the use of IT tools in African regions and subregions. Therefore, additional qualitative studies must gather more information and quantitative studies to determine the findings' generalizability.

This study aimed at identifying the strategies and best practices that IT officers in the eight African RECs use for digitizing regional and subregional court processes to improve African e-justice systems. The associated results aimed at providing African

regional or subregional courts with inexistent or poor digitized court processes, with best practices for quality and productive results. I recommend performing other research studies on the acceptability and adoption of e-justice systems in African regional and subregional courts. The latter could identify at what level IT officers were able to consider the stakeholders' concerns during the digitization process. It might also help identify other strategies to improve existing e-justice systems in the African regions and sub-regions.

Recommendations for Further Study

The findings and the limitations related to this study prompted in me several recommendations for further research. This research's limitations concerned the potential bias and inability to generalize the results, both due to the study's qualitative nature. The first recommendation is to undertake the same research to analyze and compare the results against those from more case organizations and different African RECs. The second recommendation is related to the need for a quantitative study to determine the generalizability of the findings across the existing eight African RECs.

As this research study focused on IT officers' involvement working as ACSAs, CSAs, and Heads of IT in African regional and subregional courts, I recommend performing the same research with IT officers working as IT network or system administrators and contrast the results. IT network and system administrators usually maintain the IT infrastructure and hardware required for the deployment of e-justice systems. The findings of this study revealed that ICT infrastructure represents one of the main challenges for digitizing regional and subregional court processes in African RECs.

The perspectives of IT Network or system administrators might confirm or complement the strategies identified for IT officers working as ACSAs, CSAs, and HITs on the quality perspectives. Finally, additional studies will reduce the literature gap related to the digitization of court processes in African RECs for the IT officers working as ACSA, CSAs, HITs, IT network administrators, and IT system administrators in African RECs judicial institutions.

Reflections

Throughout my professional career as an IT specialist and expert, I always worked and promoted customer satisfaction. My academic activities exposed me to the concepts of TQM. At the same time, my IT experience helped me better understand the digitization processes observed in the studied African regional and subregional courts. Throughout this research study, I remained diligent and objective in the results. I was cautious concerning all the various types of bias during the interviews and analysis of collected data phases. The results of this study emphasized the need to focus on customer satisfaction and involve all the stakeholders. Humility and diplomacy were crucial for the interaction with each organization's participants, which resulted in mutual benefits.

Summary and Study Conclusions

Achieving quality in digitizing court processes in African regional and subregional courts is complex. It involves combining several critical criteria, such as how the end users feel about using e-justice platforms and how well the digitized court processes can satisfy their needs as African REC citizens who seek justice. Digitizing court processes also involves the perception of end users about how valuable the software

is. It requires that IT officers support end users in several ways using multiple tools when something goes wrong. Only the end users of the e-justice platforms can determine its quality. The IT officer's role is not only technical as it also involves several concepts related to quality based on customer satisfaction. IT officers in African regional or subregional courts are on the bridge of merging three worlds: the technology, judicial, and social worlds based on quality criteria.

References

Aaltonen, I., Laarni, J., & Tammela, K. (2015). Envisioning e-justice for the criminal justice chain in Finland. *Electronic Journal of E-Government*, *13*(1). http://www.ejeg.com

Abu-Auf, M. A., Md Salleh, S. B., & Yusoff, R. Z. (2016). The relationship between word of mouth and consumer buying behavior mediating by religious orientation in Riyadh, Saudi Arabia. *International Review of Management and Marketing, 6*(4), 1034-1038. https://www.econjournals.com/index.php/irmm

Abu-Dalbouh, H. (2016). Implementing end-user privacy through human computer interaction for improving quality of personalized web. *Computer and Information Science*, *9*(1), 75-89. https://doi.org/10.5539/cis.v9n1p75

ACT Government. (2007). *Standard 3 - Employment framework*. *Amendment 1*, 385–420. https://www.cmtedd.act.gov.au/__data/assets/pdf_file/0017/116423/wlsinfotec.pdf

Adeola, O., & Evans, O. (2019). ICT, infrastructure, and tourism development in Africa. *Tourism Economics*, *1*(18), 97-114. https://doi.org/10.1177/1354816619827712

African Court on Human and Peoples' Rights. (2015, November 4-6). *Final communique/outcomes of the 2nd African Judicial Dialogue on the theme "Connecting national and international justice*. http://en.african-court.org/images/Other%20Reports/20151113_-_Final_Outcome_Statement_2nd_African_Judicial_Dialogue_CLEAN.pdf

African Development Bank. (2014). *ICT competitiveness in Africa*. http://documents1.worldbank.org/curated/en/431511468193130115/pdf/882260WP0

Box380petitiveness0summary.pdf.

Ahmed, S. M., Maurana, C., Nelson, D., Meister, T., Young, S. N., & Lucey, P. (2016). Opening the black box: Conceptualizing community engagement from 109 community-academic partnership programs. *Progress in Community Health Partnerships, 10*(1), 51-61. https://doi.org/10.1353/cpr.2016.0019

Alami, S. A. (2015). Research within the field of applied linguistics: Points to consider. *Theory and Practice in Language Studies, 5*(7), 1330-1337. https://doi.org/10.17507/tpls.0507.03

Alase, A. (2017). The interpretative phenomenological analysis (IPA): A guide to a good qualitative research approach. *International Journal of Education & Literacy Studies, 5*(2), 9-19. https://doi.org/10.7575/aiac.ijels.v.5n.2p.9

Alghamdi, H. (2016). Toward a better understanding of total quality management (TQM). *Journal of Business & Economic Policy, 3*(4), 29–37. http://www.jbepnet.com

Alhassan, A., Alzahrani, W., & AbdulAziz, A. (2017). Total quality management for software development. *Proceedings of the IEEE 1991 National Aerospace and Electronics Conference NAECON 1991, 158*(5), 38–44. https://doi.org/10.5120/ijca2017912850.

Aliyu, A. A., Bello, M. U., Kasim, R., & Martin, D. (2014). Positivist and non-positivist paradigm in social science research: Conflicting paradigms or perfect partners? *Journal of Management and Sustainability, 4*(3), 79. https://doi.org/10.5539/jms.v4n3p79

Alkhalifah, A. (2017). A research methodology to explore the adoption of e-government. *International Journal of Computer Engineering and Information Technology, 9*(9), 216-224. http://ijceit.org

Almalki, S. (2016). Integrating quantitative and qualitative data in mixed methods, research-challenges, and benefits. *Journal of Education and Learning*, *5*(3), 288. https://doi.org/10.5539/jel.v5n3p288

Al-Sarayrah, S., Obeidat, B. Y., Al-Salti, Z., & Kattoua, T. (2016). The effect of culture on strategic human resource management practices: a theoretical perspective. *International Journal of Business Management and Economic Research, 7*(4), 704-716. https://doi.org/ 10.5430/jms.v7n4p18

Amukugo, H. J., Jooste, K., & Van, D. A. (2015). Development of a model to facilitate male involvement in the reproductive health context by the registered nurses. *International Journal of Advanced Nursing Studies, 4*(2), 122-130. https://doi.org/10.14419/ijans.v4i2.5018

Andersson, R., Eriksson, H., & Torstensson, H. (2006). Similarities and differences between TQM, six sigma, and lean. *The TQM Magazine, 18*(3), 282-296. https://doi.org/10.1108/09544780610660004

Anil, A. P., & Satish, K. P. (2019). An empirical investigation of the relationship between TQM practices, quality performance, and customer satisfaction level. *International Journal of Productivity and Quality Management, 26*(1), 96-117. https://doi.org/10.1504/IJPQM.2019.096993

Annamdevula, S., & Bellamkonda, R. S. (2016). The effects of service quality on student loyalty: The mediating role of student satisfaction. *Journal of Modelling in Management; Bradford, 11*(2), 446-462. https://doi.org/10.1108/jm2-04-2014-0031.

Annansingh, F., & Howell, K. (2016). Using phenomenological constructivism (PC) to discuss a mixed-method approach in information systems research. *Electronic. Journal of Business Research Methods, 14*(1), 39-49. http://www.ejbrm.com/main.html

Aquilani, B., Cecilia, S., Ruggieri, A., & Gatti, C. (2017). A systematic literature review on total quality management critical success factors and the identification of new avenues of research. *The TQM Journal, 29*(1), 184-213. https://doi.org/10.1108/TQM-01-2016-0003

Azmat, F., & Rentschler, R. (2017). Gender and ethnic diversity on boards and corporate responsibility: the case of the arts sector. *Journal of Business Ethics, 141*(2), 317-336. https://doi.org/10.1007/s10551-015-2707-0

Baillie, L. (2015). Promoting and evaluating scientific rigor in qualitative research. *Nursing Standard, 29*(46), 36-42. https://doi.org/10.7748/ns.29.46.36.e8830

Bajandas, F. F., & Ray, G. K. (2018). *Administrative Conference of the United States implementation and use of electronic case management systems in federal agency adjudication national center for state courts and table of contents*, 1-71. https://www.acus.gov/sites/default/files/documents/2018.05.23 eCMS Final report_2.pdf

Bandi, S., Angadi, M., & Shivarama, J. (2017). Best Practices in Digitization : Planning and

Workflow Strategies. *Journal of Information Management and Educational Technology, 1*(April), 8-13. http://www.ijiet.org/

Bankole, F., & Mimbi, L. (2017). ICT Infrastructure and it's impact on national development: A research direction for Africa. *The African Journal of Information Systems, 9*(2), 1. https://digitalcommons.kennesaw.edu/ajis/vol9/iss2/1

Barata, J., & Cunha, P. R. (2017). Synergies between quality management and information systems: a literature review and map for further research. *Total Quality Management and Business Excellence, 28*(3-4), 282-295. https://doi.org/10.1080/14783363.2015.1080117

Barnard, M. (2016). How to apply for research ethics committee approval. *Nursing Children and Young People, 28*(6), 16. https://doi.org/10.7748/ncyp.28.6.16.s20.

Baseer, K. K., Mohan Reddy, A. R., & Bindu, C. S. (2015). A systematic survey on waterfall vs. agile vs. lean process paradigms. *Journal on Software Engineering, 9*(3), 34-59. https://imanagerpublications.com/journalsfulldetails/3/JournalonSoftwareEngineering

Belmont Report. (1979). The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research. *National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research*. Retrieved April 24, 2017, from https://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html

Beltran-Aroca, C. M., Girela-Lopez, E., Collazo-Chao, E., Montero-Perez-Barquero, M., & Munoz-Villanueva, M. C. (2016). Confidentiality breaches in clinical practice:

what happens in hospitals? *BMC Medical Ethics, 17*(1), 52-64. https://doi.org/10.1186/s12910-016-0136-y

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open, 2*, 8–14. https://doi.org/10.1016/j.npls.2016.01.001

Bennett, H. R., Czech, D., Harris, B., & Todd, S. (2016). Perceptions of coping with an injury in sport at the NCAA Division I level: Perceptual continuity between student-athletes and their athletic trainers. *Clinical Kinesiology (Online), 70*(4), 39-43. http://www.clinicalkinesiology.net/

Benoot, C., Hannes, K., & Bilsen, J. (2016). The use of purposeful sampling in a qualitative evidence synthesis: A worked example on sexual adjustment to a cancer trajectory. *BMC Medical Research Methodology, 16*(1), 21. https://doi.org/10.1186/s12874-016-0114-6

Benyekhlef, K., Amar, E., & Callipel, V. (2015). ICT-Driven strategies for reforming access to justice mechanisms in developing countries. *The World Bank Legal Review Volume 6 Improving Delivery in Development: The Role of Voice, Social Contract, and Accountability*, *7*(1), 325–343. https://doi.org/https://doi.org/10.1596/978-1-4648-0378-9_ch15

Bird, P. (2017). A day in the life of a nurse informaticist: Implementation support. Journal of Informatics Nursing, 2(2), 27-29.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Black, K., & Revere, L. (2006). Six Sigma arises from the ashes of TQM with a twist. *International Journal of Health Care Quality Assurance, 19*(3), 259–266. https://doi.org/10.1108/09526860610661473

Bogaert, P., Bochenek, T., Prokop, A., & Pilc, A. (2015). A qualitative approach to a better understanding of the problems underlying drug shortages, as viewed from Belgian, French and the European union's perspectives. *PLoS One, 10*(5), 1-20, https://doi.org/10.1371/journal.pone.0125691

Bokaie, M., Simbar, M., & Ardekani, S. M. Y. (2015). Sexual behavior of infertile women: a qualitative study. *Iranian Journal of Reproductive Medicine, 13*(10), 643-654. https://doaj.org

Bolatan, G. I. S., Gozlu, S., Alpkan, L., & Zaim, S. (2016). The Impact of technology transfer performance on total quality management and quality performance. *Procedia - Social and Behavioral Sciences, 235*, 746-755. https://doi.org/10.1016/J.SBSPRO.2016.11.076

Boronow, K. E., Susmann, H. P., Gajos, K. Z., Rudel, R. A., Arnold, K. C., Brown, P., Morello-Frosch, R., Havas, L., & Brody, J. G. (2017). DERBI: A digital method to help researchers offer "right- to-know" personal exposure results. *Environmental Health Perspectives (Online), 125*(2), 27. https://doi.org/10.1289/ehp702

Bosire, E. M., Kivoi, D., & Nduvi, S. (2018). Effects of judicial transformation framework (2012-2016) on the performance of the judiciary in Kenya. *Archives of Business Research*, 5(12). https://doi.org/10.14738/abr.512.4050

Brah, S. A., & Lim, H. Y. (2006). The effects of technology and TQM on the

performance of logistics companies. *International Journal of Physical Distribution & Logistics Management*, *36*(3) 192-209. https://doi.org/10.1108/09600030610661796

Brailas, A., Avani, S., Gkini, C., Deilogkou, M., Koskinas, K., & Alexias, G. (2017). Experiential learning in action: a collaborative inquiry. *The Qualitative Report, 22*(1), 271-288. https://nsuworks.nova.edu/tqr/vol22/iss1/15

Brusse, C., Kach, A. P., & Wagner, S. M. (2016). Boundary conditions: What they are, how to explore them, why we need them, and when to consider them. *Organizational Research Methods*, *20*(4), 574-609. https://doi.org/10.1177/1094428116641191

Buck, C., & Eder, D. (2018). The impact of digitization on business models – A systematic literature review. *Journal of Systems and Information Technology*, *10*(3), 232-250. https://doi.org/10.1108/13287260810916934

Bumblauskas, D., & Kalghatgi, S. (2018). Order in the courts: propagating a culture of efficiency within the Irish Court Services. *Public Money and Management*, *38*(4), 271-280. https://doi.org/10.1080/09540962.2018.1449468

Busu, C., & Busu, M. (2017). www.econstor.eu, *19*(Special Issue No. 11), 1035–1049.

Butina, M. (2015). A Narrative Approach to Qualitative Inquiry. *Clinical Laboratory Science*, *28*(3), 190-196. https://doi.org/10.29074/ASCLS.28.3.190

Caliz, D., Samaniego, G., & Caliz, R. (2016). Methodological proposal of policies and procedures for quality assurance in information systems for software development companies based on CMMI. *Journal of Software*, *11*(3), 230-241.

https://doi.org/10.17706/jsw.11.3.230-241

Calvillo-Arbizu, J., Roa-Romero, L. M., Estudillo-Valderrama, M. A., Salgueira-Lazo, M., Aresté-Fosalba, N., del-Castillo-Rodríguez, N. L., González-Cabrera, F., Marrero-Robayna, S., López-de-la-Manzana, V., & Román-Martínez, I. (2019). User-centred design for developing e-Health system for renal patients at home (AppNephro). *International Journal of Medical Informatics*, *125*, 47–54. https://doi.org/10.1016/j.ijmedinf.2019.02.007

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *In Oncology Nursing Forum, 41*, 545-547. https://doi.org/10.1188/14.ONF.545-547

Cassim, F. (2017). The use of electronic discovery and cloud-computing technology by lawyers in practice: Lessons from abroad. *Journal for Juridical Science, 42*(1). https://doi.org/10.18820/24150517/JJS42.v1.2

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. Qualitative Report, 21, 811-831. http://nsuworks.nova.edu/cgi/viewcontent.cgi?article=2337&context=tqr

Chari, S., Seneviratne, O., Gruen, D. M., Foreman, M. A., Das, A. K., & McGuinness, D. L. (2020). Explanation Ontology: A model of explanations for user-centered AI. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *12507 LNCS*(Ml), 228–243. https://doi.org/10.1007/978-3-030-62466-8_15

Chipeva, P., Cruz-Jesus, F., Oliveira, T., & Irani, Z. (2018). Digital divide at individual

level: Evidence for eastern and western European countries. *Government Information Quarterly*, *35*(3), 460–479. https://doi.org/10.1016/j.giq.2018.06.003

Chiumento, A., Khan, M. N., Rahman, A., & Frith, L. (2015). Managing ethical challenges to mental health research in post-conflict settings. *Developing World Bioethics*. https://doi.org/10.1111/dewb.12076

Ciolfi, M. A., & Kasen, P. A. (2017). The relationship between chiropractors required and the current level of business knowledge. *Chiropractic & Manual Therapies*, *25*(1), 1- 7. https://doi.org/10.1186/s12998-017-0134-2

Connell, M., Schweitzer, R., & King, R. (2015). Recovery from first-episode psychosis: A dialogical perspective. *Bulletin of the Menninger Clinic*, *79*(1), 70-90. https://doi.org/10.1521/bumc.2015.79.1.70

Connelly, L. M. (2016). Understanding research. Trustworthiness in qualitative research. MedSurg Nursing Journal, 25(6), 435-436. https://www.amsn.org/

Cooper, J. A., Borasky, D., Rosenfeld, S., & Sugarman, J. (2016). Challenges in the ethical review of research involving complementary and integrative medicine. *Therapeutic Innovation & Regulatory Science*, 50, 337-341. https://doi.org/10.1177/2168479015620246

Coorey, G. M., Neubeck, L., Usherwood, T., Peiris, D., Parker, S., Lau, A. Y. S., Chow, C., Panaretto, K., Harris, M., Zwar, N., & Redfern, J. (2017). Implementation of a consumer-focused eHealth intervention for people with moderate-to-high cardiovascular disease risk: protocol for mixed-methods process evaluation. *BMJ Open*, *7*(1), 1-10. https://doi.org/10.1136/bmjopen- 2016-014353

Cordella, A., & Contini, F. (2020). *Digital Technologies for Better Justice: A Toolkit for Action*. https://publications.iadb.org/en/digital-technologies-for-better-justice-a-toolkit-for-action

Crosby, P. B. (1992). Completeness: Quality for the 21st century. New York, New York, USA: Penguin Group.

Cwiklicki, M. (2016). Understanding management concepts through the development of their toolbox: The case of total quality management. *Our Economy, 62*(1), 56-62. https://doi.org/10.1515/ngoe2016-0006

Dahlgaard-Park, S. M., Reyes, L., & Chen, C. K. (2018). The evolution and convergence of total quality management and management theories. *Total Quality Management and Business Excellence*, *29*(9–10), 1108–1128. https://doi.org/10.1080/14783363.2018.1486556

David, L. T., & Alayon, S. B. (2016). Digital curation projects: a study of selected academic and research repositories in the Philippines. *LIBRES: Library and Information Science Research e-Journal*, *26*(1), 89-98. https://www.libres-ejournal.info

Dawabsheh, M., Hussein, A., & Jermsittiparsert, K. (2019). The triangular relationship between TQM, organizational excellence and organizational performance: A case of Arab American University Palestine. *Management Science Letters*, *9*(6), 921-932. Https://doi.org/10.5267/j.msl.2019.2.010

Dedy, A. N., Zakuan, N., Bahari, A. Z., Ariff, M. S. M., Chin, T. A., & Saman, M. Z. M. (2016). Identifying critical success factors for TQM and employee performance in

the Malaysian automotive industry: a literature review. *IOP Conference Series: Materials Science and Engineering, 131*(1). https://doi.org/10.1088/1757-899X/131/1/012016

De Massis, A., & Kotlar, J. (2014). The case study method in family business research: Guidelines for qualitative scholarship. *Journal of Family Business Strategy*, *5*(1), 15–29. https://doi.org/10.1016/j.jfbs.2014.01.007

Deming, W. E. (1982). Out of the crisis. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Deming, W. E. (1985). Transformation of western style of management. Interfaces, 15(3), 6– 11. http://pubsonline.informs.org/journal/inte

Deming, W. E. (1986). Out of the crisis. MIT *Center for Advanced Engineering*. Cambridge: MA, University Press.

Dempsey, L., Dowling, M., Larkin, P., & Murphy, K. (2016). Sensitive interviewing in qualitative research. *Research in Nursing & Health, Advance online publication*. https://doi.org/10.1002/nur.21743

Dey, P., & Lehner, O. (2017). Registering ideology in the creation of social 194 entrepreneurs: intermediary organizations, 'ideal subject', and the promise of enjoyment. *Journal of Business Ethics, 142*(4), 753-767. https://doi.org/10.1007/s10551- 016-3112-z

Dikko, M. (2016). Establishing construct validity and reliability: pilot testing of a qualitative interview for research in takaful (Islamic Insurance). *The Qualitative Report, 21*(3), 521-528. https://nsuworks.nova.edu/tqr/vol21/iss3/6.

Dilawo, R. S., & Salimi, Z. (2019). Understanding TQM implementation barriers involving construction companies in a difficult environment. *International Journal of Quality & Reliability Management*, *36*(7), 1137-1158. https://doi.org/10.1108/IJQRM-05-2017-0096

Donoghue, J. (2017). The rise of digital justice: courtroom technology, public participation, and access to justice. *The Modern Law Review*, *80*(6), 995–1026. https://onlinelibrary.wiley.com

Drossos, D., Lekakos, G., Doukidis, G. I., & Tsatsa, N. (2018). Public-sector digitization : An analytical cost-effective framework

Dutoit, P. (2016). An ethnographic account of a snapshot in professor Graham Duncan's journey of educational professionalism. *Hervormde Teologiese Studies*, *72*(1), 1-7. https://doi.org/10.4102.v72i1.3275

Egessa, M., & Cherotich, R. (2017). SMS enhanced justice : Towards efficiency and convenience in court cases. *Annual Innovation Research Symposium*, *16*(16), 19-27. http://hdl.handle.net/123456789/14029

Eiseman, J., Bagnall, W., Kellett, C., & Lam, C. (2016). Litchfield unbound: unlocking legal history with metadata, digitization, and digital tools. *The American Society for Legal History*, *34*(4). https://doi.org/10.1017/S0738248016000328

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive Sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1-4. https://doi.org/10.11648/j.ajtas.20160501.11

Faciane, M. (2018). Reducing the costs of poor quality: A manufacturing case study

(Doctoral dissertation). http://scholarworks.waldenu.edu/dissertations.

Ferdousi, F., Baird, K., Munir, R., & Su, S. (2018). Associations between organisational factors, TQM and competitive advantage: Evidence from an emerging economy. *Benchmarking*, *25*(3), 854-873. https://doi.org/10.1108/BIJ-05-2017-0110

Ferreria, R., Buttell, F., & Ferreria, S. (2015). Ethical considerations for conducting disaster research with vulnerable populations. *Journal of Social Work Values and Ethics*, *12*(1), 379-384. http://jswve.org/

Fleer, P. (2018). Conclusion: digitization and the continuities of change in administrative information processing. *Administration and Society, 50*(9), 1335-1359. https://doi.org/10.1177/0095399718791540

Foley, T., Boyle, S., Jennings, A., & Smithson, W. H. (2017). "Were certainly not in our comfort zone": a qualitative study of GPs dementia-care educational needs. BMC Family Practice, 18(1), 1-10. https://doi.org/10.1186/s12875-017-0639-8

Fon, N. N. A. (2019). An 'African Justice': legal integration and the emergence of an African judicial system. *Journal of Asian and African Studies,1* (13). https://doi.org/10.1177/0021909619830712

Gabriel, Y. (2015). Reflexivity and beyond? A plea for imagination in qualitative research methodology. *Qualitative Research in Organizations and Management. An International Journal*, *10*(4), 332-336. https://doi.org/10.1108/qrom-07-2015-1305

Gelling, L. (2015). Qualitative research. *Nursing Standard*, *29*(30), 43-57. https://doi.org/10.7748/ns.29.30.43.e9749

German, E. (2017). LibGuides for Instruction: A Service Design Point of View from an

Academic Library. *Reference & User Services Quarterly, 56*(3), 162-167. https://doi.org/10.5860/rusq.56n3.162

Gokmen, O. F., Uysal, M., Yasar, H., Kirksekiz, A., Guvendi, G. M., & Horzum, M. B. (2017). Methodological Trends of the Distance Education Theses Published in Turkey from 2005 to 2014: A Content Analysis. *Egitim ve Bilim, 42*(189), 1-25. https://doi.org/10.15390/eb.2017.6163

Gomes, A. O., Alves, S. T., & Silva, J. T. (2018). Effects of investment in information and communication technologies on the productivity of courts in Brazil. *Government Information Quarterly, 35*(3), 480-490. https://doi.org/10.1016/j.giq.2018.06.002

Gómez, J. G., Martínez Costa, M., & Martínez Lorente, Á. R. (2017). EFQM Excellence Model and TQM: an empirical comparison. *Total Quality Management and Business Excellence, 28*(1-2), 88-103. https://doi.org/10.1080/14783363.2015.105016

Goodell, L., Stage, V., & Cooke, N. (2016). Practical qualitative research strategies: Training interviewers and coders. *Journal of Nutrition Education and Behavior, 48*(6), 578-585. https://doi.org/10.1016/j.jneb.2016.06.001

Greenwood, J. M., & Brinkema, J. (2015). E-Filing case management services in the US federal courts: the next generation: a case study. *International Journal for Court Administration, 7*(1), 3. https://doi.org/10.18352/ijca.179

Greer, M., & Harris, H. S. (2018). User-centered design as a foundation for effective online writing instruction. *Computers and Composition, 49,* 14-24. https://doi.org/10.1016/j.compcom.2018.05.006

Grieb, S. D., Eder, M. M., Smith, K. C., & Calhoun, K. T. D. (2015). Qualitative research and community-based participatory research: considerations for effective dissemination in the peer-reviewed literature. *Progress in Community Health Partnerships, 9*(2), 275-282. https://doi.org/10.1353/cpr.2015.0041

Haahr, A., Norlyk, A., & Hall, E. O. (2014). Ethical challenges embedded in qualitative research interviews with close relatives. Nursing Ethics., 21(1), 6-15. https://doi.org/10.1177/0969733013486370

Haegele, J. A., Sato, T., Zhu, X., & Avery, T. (2017). Physical Education Experiences at Residential Schools for Students Who Are Blind: A Phenomenological Inquiry. *Journal of Visual Impairment & Blindness, 111*(2), 135-147.

Hallissy, B. P., Laiosa, J. P., Shafer, T. C., Hine, D. H., Forsythe, J. R., Abras, J., Hariharan, N., & Dahl, C. (2016). HPCMP CREATE-AV quality assurance: Lessons learned by validating and supporting computation-based engineering software. *Computing in Science & Engineering, 18*(1), 52-2. https://doi.org/10.1109/MCSE.2015.136

Hammer, M. J. (2016). Informed consent in the changing landscape of research. *Oncology Nursing Forum, 43*(5), 558-560. https://doi.org/10.1188/16.ONF.558-560

Hanson, L., Haas, M., Bronfort, G., Vavrek, D., Schulz, C., Leininger, B., Evans, R., Takaki, L., & Neradilek, M. (2016). Dose-response of spinal manipulation for cervicogenic headache: study protocol for a randomized controlled trial. *Chiropractic & Manual Therapies, 24*(1), 1-12. https://doi.org/10.1186/s12998-016-0105-z

Hassan, K. H., Yusoff, S. S. A., Mokhtar, M. F., & Khalid, A. T. K. (2012). The use of technology in the transformation of business dispute resolution. *European Journal of Law and Economics*. https://doi.org/10.1007/s10657-012-9375-7

Hayes, B., Bonner, A., & Douglas, C. (2013). An introduction to mixed methods research for nephrology nurses**.** *Renal Society of Australasia Journal, 9*, 8-14. http://www.renalsociety.org/RSAJ/index_nl.html

Hemkens, L. G., Contopoulos-Ioannidis, D. G., & Ioannidis, J. P. (2016). Routinely collected data and comparative effectiveness evidence: Promises and limitations. *Canadian Medical Association Journal, 188*(8), E158-E164. https://doi.org/10.1503/cmaj.150653

Henry, C., & Foss, L. (2015). Case sensitive? A review of the literature on the use of case method in entrepreneurship research. *International Journal of Entrepreneurial Behaviour & Research, 21*(3), 389-409. https://doi.org/10.1108/ijebr-03-2014-0054.

Hesse-Biber, S. (2016). Qualitative or mixed methods research inquiry approaches: some loose guidelines for publishing in sex roles. *Sex Roles, 74*(1), 6-9. https://doi.org/10.1007/s11199-015-0568-8

Hjelm, M., Holst, G., Willman, A., Bohman, D., & Kristensson, J. (2015). The work of case managers as experienced by older persons (75+) with multi-morbidity - a focused ethnography. *BMC Geriatrics; London, 15*(1), 1-11. https://doi.org/10.1186/s12877- 015-0172-3

Hoover, S. M., & Morrow, S. L. (2015). Qualitative researcher reflexivity: A follow-up study with female sexual assault survivors. *The Qualitative Report, 20*(9), 1476-

1489. https://nsuworks.nova.edu/

Houghton, C., Murphy, K., Shaw, D., & Casey, D. (2015). Qualitative case study data analysis: an example from practice. *Nurse Researcher, 22*(5), 8-12. https://doi.org/10.7748/nr.22.5.8.e1307

Hoyland, S., Hollund, J. G., & Olsen, O. E. (2015). Gaining access to a research site and participants in medical and nursing research: A synthesis of accounts. *Medical Education, 49*(2), 224-232. https://doi.org/10.1111/medu.12622

Hussein, A. (2015). The use of triangulation in social sciences research: Can qualitative and quantitative methods be combined? *Journal of Comparative Social Work, 4*(1), 1-12. https://doaj.org/article/a76dfb64227a46d3b7878af4c5b2d52e?

Ibrahim, N., & Edgley, A. (2015). Embedding researcher's reflexive accounts within the 208 analysis of a semistructured qualitative interview. The Qualitative Report, 20(10), 1671-1681. https://nsuworks.nova.edu/

Ienca, M., Kressig, R. W., Jotterand, F., & Elger, B. (2017). Proactive Ethical Design for Neuroengineering, Assistive and Rehabilitation Technologies: the Cybathlon Lesson. *Journal of Neuroengineering and Rehabilitation,14*(1), https://doi.org/10.1186/s12984-017-0325-z

International Records Management Trust. (2011). *Managing records as evidence for ICT / e-government and freedom of information: Kenya court case study*. http://www.irmt.org/portfolio/managing-records-reliable-evidence-ict-e-government-freedom-information-east-africa-2010-%e2%80%93-2011

International Telecommunication Union. (2017). *Measuring the information society*

report 2017, (1). https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2017/MISR2017_Volume1.pdf

Islami, X., Mulolli, E., & Mustafa, N. (2018). Using Management by Objectives as a performance appraisal tool for employee satisfaction. *Future Business Journal*, *4*(1), 94–108. https://doi.org//10.1016/j.fbj.2018.01.001

Issa, M., & Wamukoya, J. (2018). The role of electronic records management in promoting the delivery of justice in Tanzania : Perspectives from Dar es Salaam. *Information and Knowledge Management*, *8*(2), 30–35. www.iiste.org

Jacobson, R. M., Hanson, W. E., & Zhou, H. (2015). Canadian psychologists' test feedback training and practice: A national survey. *Canadian Psychology*, 56, 394-404.

Johnson, M., O'Hara, R., Hirst, E., Weyman, A., Turner, J., Mason, S., Quinn, T., Shewan, J., & Siriwardena, A. N. (2017). Multiple triangulation and collaborative research using qualitative methods to explore decision making in pre-hospital emergency care. *BMC Medical Research Methodology*, *17*(1), 1-11. https://doi.org/10.1186/s12874-017-0290-z

Joyce, S. A. (2015). Outstanding quality using team management. International Journal of 119 Metalcasting, 9(3), 7-13. http://www.afsinc.org/technical/IJM.cfm

Judkins-Cohn, T. M., Kielwasser-Withrow, K., Owen, M., & Ward, J. (2014). Ethical principles of informed consent: Exploring nurses' dual role of care provider and researcher. *Journal of Continuing Education in Nursing, 45*(1), 35-42. https://doi.org/10.3928/00220124-20131223-03

Kanavaki, A. M., Rushton, A., Klocke, R., Abhishek, A., & Duda, J. L. (2016). Barriers and facilitators to physical activity in people with hip or knee osteoarthritis: protocol for a systematic review of qualitative evidence. *BMJ Open, 6*(11). 1-6. https://doi.org/10.1136/bmjopen-2016-012049

Kane, G., Palmer, D., Phillips, A. N., & Kiron, D. (2017). Winning the digital war for talent. *MIT Sloan Management Review,58*(2), 17-19. http://mitsmr.com/2fPnRhI

Katina, P. F. (2015). Emerging systems theory-based pathologies for governance of complex systems. *International Journal of System of Systems Engineering*, *6*, 144–159. https://doi.org/10.1504/IJSSE.2015.068806

Kaufmann, C. P., Stämpfli, D., Hersberger, K. E., & Lampert, M. L. (2015). Determination of risk factors for drug-related problems: a multidisciplinary triangulation process. *BMJ Open, 5*(3), 1-7. https://doi.org/10.1136/bmjopen-2014-006376

Kayikci, Y. (2018). Sustainability impact of digitization in logistics. *Procedia Manufacturing*, *21*, 782–789. https://doi.org/10.1016/j.promfg.2018.02.184

Kaynak, H., & Hartley, J. (2008). "A replication and extension of quality management into the supply chain". *Journal of Operations Management, 26*(4), 468-489. Https://doi.org/ 10.12691/jbms-2-6-1

Kell, J., & Booker, L. (2018). Working with "women only": gendered protocols in the digitization and archiving process. *Language Documentation and Conservation*, *12*, 461-480. http://nflrc.hawaii.edu/ldc/

Khaldi, K. (2017). Quantitative, Qualitative or Mixed Research: Which Research

Paradigm to Use? *Journal of Educational and Social Research, 7*(2), https://doi.org/10.5901/jesr.2017.v7n2p15

Khanam, S., Siddiqui, J., & Talib, F. (2013). Role of information technology in total quality management. *International Journal of Advanced Research in Computer Engineering &Technology*, *2*(8), 2433-2445. http://ijarcet.org/

Kline, T. J. B. (2017). Sample issues, methodological implications, and best practices. *Canadian Journal of Behavioural Science, 49*(2), 71-77. https://doi.org/10.1037/cbs0000054

Kluse, C. (2009). TQM and the Government : The Importance of leadership and personal transformation. *The Journal for Quality and Participation*, *32*(3), 27-31. https://doi.org/ 10.12691/jbms-2-6-1

Krishna, O. (2018). Structural reforms for overcoming delays in justice delivery. *Journal of Constitutional Law and Jurisprudence, 1*(1), 32-41. http://lawjournals.stmjournals.in/index.php/Jolj/article/view/38

Kruth, J. G. (2015). Five qualitative research approaches and their applications in parapsychology. Journal of Parapsychology, 79(2), 219-233.

Kumar, R., & Mishra, R. S. (2020). Linking TQM Critical Success Factors to strategic goal : Impact on Organizational Performance. *IOSR Journal of Mechanical and Civil Engineering*, *17*(3), 1-13. https://doi.org/10.9790/1684-1703020113

Lacerda, T. C., & von Wangenheim, C. G. (2018). Systematic literature review of usability capability/maturity models. *Computer Standards and Interfaces*, *55*(June 2017), 1339-1351. https://doi.org/10.1016/j.csi.2017.06.001

Lambert, V., Glacken, M., & McCarron, M. (2013). Meeting the information needs of children in hospital. *Journal of Child Health Care*, 17, 338-353 https://doi.org/10.1177/1367493512462155

Lantos, J. D., & Spertus, J. A. (2014). The concept of risk in comparative-effectiveness research. *New England Journal of Medicine, 37*1(22), 2129-2130. https://doi.org/10.1056/nejmhle1413301

Laszlo, G. P. (1997). The role of quality cost in TQM. *TQM Magazine, 9*(6), 410-413. https://doi.org/10.1108/09544789710367811

Ledo-Andión, M., López-Gómez, A., & Castelló-Mayo, E. (2017). The role of original version cinema into the european digital space/el rol del cine en versión original en el espacio digital europeo. *Comunicar, 25*(51), 73-81. https://doi.org/10.3916/c51-2017-07

Leung, L. (2015). Validity, reliability, and generalizability in qualitative research. *Journal of Family Medicine and Primary Care, 4*(3), 324-327. https://doi.org/10.4103/2249- 4863.161306

Lin, K. (2016). Integrating ethical guidelines and situated ethics for researching social-media-based interactions: Lessons from a virtual ethnographic case study with Chinese youth. *Journal of Information Ethics, 25*(1), 114-131.

Lyu, J., & Liang, C.-C. (2014). Effective approach to quality control for small–medium software companies. *Total Quality Management & Business Excellence, 25*, 296–308. https://doi.org/10.1080/14783363.2012.669545

Makoza, F., & Chigona, W. (2018). Problematising development and poverty in the ICT

policy of Malawi. *International Conference on Information Systems*, *38*, 0-17. https://aisel.aisnet.org/icis2017/Global-IS/Presentations/6

Mandeep, K., Singh, K., & Doordarshi, S. (2019). Synergetic success factors of total quality management (TQM) and supply chain management (SCM). *International Journal of Quality & Reliability Management*, *36*(6), 842-863. https://doi.org/10.1108/IJQRM-11-2017-0228

Manders, B., De Vries, H. J., & Blind, K. (2016). ISO 9001 and product innovation: A literature review and research framework. *Technovation, 48–49*, 41-55. https://doi.org/ 10.1016/j.technovation.2015.11.004

Manker, C. (2015). *Factors contributing to the limited use of information technology in state courtrooms* (Doctoral dissertation). http://scholarworks.waldenu.edu/dissertations

Marsh, W., Shawe, J., Robinson, A., & Leamon, J. (2016). Moving pictures: the inclusion of photo-elicitation into a narrative study of mothers' and midwives' experiences of babies removed at birth. *Evidence Based Midwifery*, *14*(2), 44-48.

Martensson, P., Fors, U., Wallin, S., & Zander, U. (2016). Evaluating research: A multidisciplinary approach to assessing research practice and quality. *Research Policy, 45*(3), 593-603. https://doi.org/10.1016/j.respol.2015.11.009

Maseh, E. (2015). Managing court records in Kenya. *African Journal of Library, Archives & Information Science*, *25*(1), 77-87. https://www.ajol.info/index.php/ajlais

Matua, G. A. (2015). Choosing phenomenology as a guiding philosophy for nursing research. *Nurse Researcher, 22*(4), 30-34. https://doi.org/10.7748/nr.22.4.30.e1325

Mayes, R. D., Dollarhide, C. T., Marshall, B., & Rae, A. (2016). Affective and developmental transitions: qualitative themes in multicultural counseling journals. *The International Journal of Information and Learning Technology*, *33*(1), 2-16. https://doi.org/10.1108/ijilt-10-2015-0031

McCusker, K., & Gunaydin, S. (2015). Research using qualitative, quantitative, or mixed methods and choices based on the research. *Perfusion, 30*(7), 537-542. https://doi.org/10.1177/0267659114559116

McRae, A. D., Bennett, C., Brown, J. B., Weijer, C., Boruch, R., Brehaut, J., Chaudhry, S., Donner, A., Eccles, M., Grimshaw, J., Zwarenstein, M., & Taljaard, M. (2013). Researchers' perceptions of ethical challenges in cluster randomized trials: a qualitative analysis. *Trials, 14*(1), 1. https://doi.org/10.1186/1745- 6215-14-1

Merriam, S. B., & Tisdale, E. J. (2016). Qualitative research: a guide to design and implementation. San Francisco, CA: Josey-Bass.

Milakovich, M. E. (1991). "Total quality management in the public sector.". *National Productivity Review, 10*(2), 195-215. https://doi.org/10.1002/npr.4040100208

Militaru, C., & Zanfir, A. (2016). The vision of new ISO 9000:2015 standards. Knowledge Horizons Economics, *8*(1), 131-135. http://orizonturi.ucdc.ro/

Miracle, V. A. (2016). The Belmont Report: The triple crown of research ethics *Dimensions of Critical Care Nursing*, *35*(4), 223-228. https://doi.org/ 10.1097/DCC.0000000000000186

Mitri, M., Cole, C., & Atkins, L. (2017). Teaching case a systems analysis role-play exercise and assignment. *Journal of Information Systems Education, 28*(1), 1-9. http://jise.org/

Mohamad, A. M., Hamin, Z., Law, F., Teknologi, U., Othman, M. B., Law, F., & Teknologi, U. (2019). Organizational implications of technology adoption at the Malaysian. *Journal of Legal, Ethical and Regulatory Issues, 22*(1), 1–5. https://www.abacademies.org/journals/journal-of-legal-ethical-and-regulatory-issues-home.html

Mohammed, M., Ahmed, E. M., & Anantharaman, R. N. (2017). The effect of TQM intention to implement on work performance in Oman's Ministry of Justice. World Journal of Entrepreneurship, *Management, and Sustainable Development, 13*(3), 223–242. https://doi.org/10.1108/wjemsd-04-2016-0020

Molina-Azorin, J. F. (2016). Mixed methods research: An opportunity to improve our studies and our research skills. *European Journal of Management and Business Economics, 25*(2), 37-38. https://doi.org/10.1016/j.redeen.2016.05.001

Moon, K., Brewer, T., Januchowski-Hartley, S., Adams, V., & Blackman, D. (2016). A guideline to improve qualitative social science publishing in ecology and conservation journals. *Ecology And Society, 21*(3), 17-38. https://doi.org/10.5751/ES-08663- 210317

Morison, J., & Harkens, A. (2019). Re-engineering justice? Robot judges, computerized courts, and (semi) automated legal decision-making. *Legal Studies*, 1-18. https://doi.org/10.1017/lst.2019.5

Morrison, P., & Stomski, N. J. (2015). Embracing participation in mental health research: conducting authentic interviews. *Qualitative Research Journal, 15*(1), 47-60. https://doi.org/10.1108/qrj-05-2014-0021

Muscalu, E., & Hulpus, I. A. (2016). The computerization of courts. Implications of judicial management in the assessment of the transparency and accessibility of legal services. *Revista Economică, 681*. http://economice.ulbsibiu.ro/revista.economica/

Navroodi, I. H., Zarkami, R., Basati, M., & Limaei, S. M. (2016). Quantitative and qualitative characteristics of Persian oak along altitudinal gradation and gradient. *Journal of Forest Science, 61*(7), 297-305. https://doi.org/10.17221/13/2015-jfs

Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence Based Nursing, 18*(2), 34-35. https://doi.org/10.1136/eb-2015-102054

Noyes, J., Hendry, M., Lewin, S., Glenton, C., Chandler, J., & Rashidian, A. (2016). Qualitative "trial-sibling" studies and "unrelated" qualitative studies contributed to complex intervention reviews. *Journal of Clinical Epidemiology, 74*(1), 133-143. https://doi.org/10.1016/j.jclinepi.2016.01.009

Oakland, J. (1989). Total quality management. Oxford, UK: Heinemann.

Obeidat, B. Y., Hashem, L., Alansari, I., Tarhini, A., & Al-Salti, Z. (2016). The effect of knowledge management uses on total quality management practices: a theoretical perspective. *Journal of Management and Strategy, 7*(4), 18-29. https://doi.org/10.5430/jms.v7n4p18

O'Brien, M. E., & Steele, N. M. (2017). Wife caregiver experiences in the patient with prostate cancer at home. *Urologic Nursing, 37*(1), 37-44, 46. https://doi.org/10.7257/1053- 816x.2017.37.1.37

Odeyemi, J. O. (2017). Context and discourse intonation in English-medium product advertisements in Nigeria's broadcast media. *i-Manager's Journal on English Language Teaching, 7*(2), 13-28. https://doi.org/10.26634/jelt.7.2.13493

Oliveira, M., Bitencourt, C., Zanardo dos Santos, A., & Teixeira, E. (2016). Thematic content analysis: Is there a difference between the support provided by the MaxQDA and Nvivo software packages. Brazilian Journal of Management / Revista De Administração Da UFSM, 9(1), 72-82. https://doi.org/10.5902/1983465

Orange, A. (2016). Encouraging reflexive practices in doctoral students through research journals. *The Qualitative Report, 21*(12), 2176-2190. https://nsuworks.nova.edu/

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health, 42*(5), 533-544. https://doi.org/10.1007/s10488-013-0528-y

Pande, P. S., Neuman, R. P., & Cavanach, R. R. (2000). The Six Sigma way. New York, NY: McGraw-Hill.

Panezi, A. (2017). DE GRUYTER The Role of Judges in Deciding the Future of Digital Libraries. *Global Jurist*. https://doi.org/10.1515/gj-2015-0025

Parviainen, P., Tihinen, M., Kääriäinen, J., & Teppola, S. (2017). Tackling the digitalization challenge: how to benefit from digitalization in practice. *International*

Journal of Information Systems and Project Management, 5(1), 63–77. https://doi.org/10.12821/ijispm050104

Patton, M. Q. (2015). Qualitative research & evaluation methods: Integrating theory and practice (4th ed.). Thousand Oaks, CA: Sage.

Petersen, M., & Hempler, N. F. (2017). Development and testing of a mobile application to support diabetes self-management for people with newly diagnosed type 2 diabetes: a design thinking case study. *BMC Medical Informatics and Decision Making, 17*(1). https://doi.org/10.1186/s12911-017-0493-6

Petersen, P. B. (1999). Total quality management and the Deming approach to quality management. *Journal of Management History, 5*(8), 1-16. https://doi.org/10.1108/13552529910290520

Peticca-Harris, A., deGama, N., & Elias, S. R. S. T. A. (2016). A dynamic process model for finding informants and gaining access in qualitative research. *Organizational Research Methods, 19*(3), 376-401. https://doi.org/10.1177/1094428116629218

Petty, N. J., Thomson, O. P., & Stew, G. (2012). Ready for a paradigm shift? Part 2: Introducing qualitative research methodologies and methods. *Manual Therapy*, *17*, 378–384. https://doi.org/10.1016/j.math.2012.03.004

Pfeiler-W, A., Buffington, M. L., Rao, S., & Sutters, J. (2017). Research Is... Results: From a National Survey. *Art Education, 70*(2), 8-15. https://doi.org/10.1080/00043125.2017.1274179

Pillot, B., Muselli, M., Poggi, P., & Dias, J. B. (2019). Historical trends in global energy policy and renewable power system issues in Sub-Saharan Africa: The case of solar

PV. *Energy Policy*, *127*(December 2018), 113-124. https://doi.org/10.1016/j.enpol.2018.11.049

Plamondon, K. M., Bottorff, J. L., & Cole, D. C. (2015). Analyzing data generated through deliberative dialogue: Bringing knowledge translation into qualitative analysis. *Qualitative Health Research, 25*(11), 1529-1539. https://doi.org/10.1177/1049732315581603

Pogrund, R. L., Darst, S., & Munro, M. P. (2015). Initial validation study for a scale used to determine service intensity for itinerant teachers of students with visual impairments. *Journal of Visual Impairment & Blindness (Online)*, 109, 433.

Powell, T. C. (1995). Total quality management as a competitive advantage: A review and empirical study. *Strategic Management Journal*, *16*(1), 15-38. https://doi.org/10.1002/smj.4250160105

Power, B., Kiezebrink, K., Allan, J. L., & Campbell, M. K. (2017). Understanding perceived determinants of nurses eating and physical activity behaviour: a theory-informed qualitative interview study. *BMC Obesity*, *4*(1), 1-12. https://doi.org/10.1186/s40608-017-0154-4

Prescott, J. J. (2017). Improving access to justice in state courts with platform technology. *Vanderbilt Law Review*, *70*(6), 1993-2050. https://www.vanderbiltlawreview.org

Pribeanu, C. (2017). A Revised Set of Usability Heuristics for the Evaluation of Interactive Systems. *Informatica Economica*, *21*(3), 31-38. https://doi.org/10.12948/issn14531305/21.3.2017.03

Psoman, E. L., & Jace, C. (2016). The impact of total quality management on service company performance: Evidence from Spain. *International Journal of Quality & Reliability Management, 33,* 380-298. https://doi.org/10.1108/ijqrm-07-2014-0090

Psychogios, A. G., & Priporas, C. V. (2007). Understanding total quality management in context : qualitative research on managers' awareness of TQM aspects in the greek service industry understanding total quality management in context : qualitative. *The Qualitative Report, 12*(1), 40–66. https://nsuworks.nova.edu/tqr/vol12/iss1/3

QSR International Pty Ltd. (2017). *NVivo: The #1 software for qualitative data analysis*. Retrieved October 24, 2017. http://www.qsrinternational.com/nvivo/nvivo-products/nvivo11-for-windows

Quazi, H. A., Hong, C. W., & Meng, C. T. (2002). Impact of ISO 9000 certification on quality management practices: a comparative study. *Total Quality Management*, *13*(1), 53–67. https://doi.org/10.1080/09544120120098564

Raikhanova, K. K., Baizhanova, G. T., Ramashov, O. N., & Buketov, A. E. A. (2017). Theory and practice of the formation of electronic documents in the public administration and the courts of the Republic of Kazakhstan. *Education & Science Without Borders, 8*(15). http://esjournal.cz/

Raja Sreedharan, V., Raju, R., & Srivatsa Srinivas, S. (2017). A review of the quality evolution in various organizations. *Total Quality Management and Business Excellence*, *28*(3-4), 351-365. https://doi.org/10.1080/14783363.2015.1082421

Ramli, R. M. (2017). E-Government implementation challenges in Malaysia and South Korea: a comparative study. *The Electronic Journal of Information Systems in*

Developing Countries, 80(1), 1–26. https://doi.org/10.1002/j.1681-4835.2017.tb00591.x

Ray, S. (2017). A street child's perspective: a grounded theory study of how street children experience and cope with grief. *The Qualitative Report, 22*(1), 291-308. https://nsuworks.nova.edu/tqr/vol22/iss1/17

Riley-Reid, T. D. (2015). The hidden cost of digitization-things to consider, Collection *Building, 34*(3), 89–93. https://doi.org/10.1108/CB-01-2015-0001

Rivard, J. R., Fisher, R. P., Robertson, B., & Mueller, D. H. (2014). Testing the cognitive interview with professional interviewers: Enhancing recall of specific details of recurring events. *Applied Cognitive Psychology, 28*(6), 917-925. https://doi.org/10.1002/acp.3026

Ryan, G. S. (2017). An introduction to the origins, history, and principles of ethnography. *Nurse Researcher, 24*(4), 15-21. https://doi.org/10.7748/nr.2017.e1470

Sabet, E., Adams, E., & Yazdani, B. (2016). Quality management in heavy-duty manufacturing industry: TQM vs. Six Sigma. *Total Quality Management and Business Excellence*, *27*(1-2), 215-225. https://doi.org/10.1080/14783363.2014.972626

Sader, S., Husti, I., & Daróczi, M. (2019). Industry 4.0 as a key enabler toward successful implementation of total quality management practices. *Periodica Polytechnica Social and Management Sciences*, *27*(2), 131-140. https://doi.org/10.3311/PPso.12675

Salkute, S. R. (2019). Effective management in district court record scanning &

digitization. *International Journal of Information, Business, and Management*, *11*(4), 95–110. http://ijibm.elitehall.com/

Sanjari, M., Bahramnezhad, F., Fomani, F. K., Shoghi, M., & Cheraghi, M. (2016). Ethical challenges of researchers in qualitative studies: The necessity to develop a specific guideline. *Journal of Medical Ethics & History of Medicine, 7*(14), 1-6. http://jmehm.tums.ac.ir/

Satirah, W., Saman, W. M., & Haider, A. (2013). E-shariah in Malaysia: technology adoption within the justice system. *Transforming Government: People, Process, and Policy, 7*(2). https://doi.org/10.1108/17506161311325396

Savage, T. N., & McIntosh, A. S. (2016). Tackling reliability and construct validity: the systematic development of a qualitative protocol for skill and incident analysis. *Journal of Sports Sciences, 35*(5), 449-456. https://doi.org/10.1080/02640414.2016.1172722

Shah, K. P., & Gupta, M. (2017). Role of information technology in expediting the process of justice: an assessment of current challenges and future goals. *International Journal of Multidisciplinary Educational Research, 6*(6), 162-177. http://www.ijmer.in

Shahmohammadi, N. (2017). The evaluation of teachers' job performance based on total quality management (TQM*). International Education Studies, 10*(4), 58. https://doi.org/10.5539/ies.v10n4p58

Shanmugasundaram, P., & Vikram, P. (2015). Total quality management, process analytical technology. *International Journal of PharmTech Research, 8*(6), 178-185.

http://www.sphinxsai.com/pharmtech.php

Shewhart, W. A. (1939). Statistical method from the viewpoint of quality control. Washington, D.C.: The Graduate School, the Department of Agriculture.

Shokri, A. (2019). Investigating the view of quality management success factors amongst future early career operations leaders. *International Journal of Quality and Service Sciences*, *11*(4), 487-503. https://doi.org/10.1108/IJQSS-02-2019-0027

Singh, J., & Singh, H. (2015). Continuous improvement philosophy: Literature review and directions. *Benchmarking an International Journal*, *22*, 75-119. https://doi.org/10.1108/bij-06-2012-0038

Singh, M., Sahu, G. P., Dwivedi, Y. K., & Rana, N. (2018). Success factors for e-court implementation at Allahabad high-court success factors for e-court implementation at Allahabad High-Court. *Pacific Asia Conference on Information Systems (PACIS)*. https://aisel.aisnet.org/pacis/

Sorsa, M., Kiikkala, I., & Åstedt-Kurki, P. (2015). Bracketing as a skill in conducting 236 unstructured qualitative interviews. *Nurse Researcher. 22*(4), 8-12. https://doi.org/10.7748/nr.22.4.8.e1317

Sousa, M. M., & Guimaraes, T. A. (2017). The adoption of innovations in Brazilian labor courts from the perspective of judges and court managers. *Revista de Administração, 52*(1), 103-113. https://doi.org/10.1016/j.rausp.2016.09.008

Sovova, O., Sova, M., & Fiala, Z. (2017). *Privacy protection and e-document management in public administration*. http://www.oecd.org/mena/governance/36853121.pdf

Spillane, A., Larkin, C., Corcoran, P., Matvienko-Sikar, K., & Arensman, E. (2017). What are the physical and psychological health effects of suicide bereavement on family members? Protocol for an observational and interview mixed-methods study in Ireland. *BMJ Open*, *7*(3), 1-8. https://doi.org/10.1136/bmjopen-2016-014707

Stara, V., Harte, R., De Rosa, M., Glynn, L., Casey, M., Hayes, P., Rossi, L., Mirelman, A., Baker, P. M. A., Quinlan, L. R., & ÓLaighin, G. (2018). Does culture affect usability? A trans-European usability and user experience assessment of a falls-risk connected health system following a user-centred design methodology carried out in a single European country. *Maturitas*, *114*(March), 22-26. https://doi.org/10.1016/j.maturitas.2018.05.002

Stewart, H., & Gapp, R. (2017). Exploring the alchemy of qualitative management research: seeking trustworthiness, credibility, and rigor through crystallization. *The Qualitative Report, 22*(1), 1-19. https://nsuworks.nova.edu/tqr/vol22/iss1/1

Suárez-Guerrero, C., Lloret-Catalá, C., & Mengual-Andrés, S. (2016). Teachers' perceptions of the digital transformation of the classroom through the use of tablets: A study in Spain. *Comunicar*, *24*(49), 81-89. https://doi.org/10.3916/c49-2016-08

Talapatra, S. (2019). Prioritizing the barriers of TQM implementation from the perspective of garment sector in developing countries. *Benchmarking: An International Journal*, *26*(7), 2205–2224. https://doi.org/10.1108/BIJ-01-2019-0023

Thalib, H., Rahman, S., Mamulai, M., & Djanggih, H. (2017). Verification through the electronic media (teleconference) on the court in the criminal judicial system. *ADRI International Journal Of Law and Social Science, 1*(1), 1-9.

https://journal.adri.or.id/index.php/ijls

Thompson, L. L. (2011). Making the team: a guide for managers (4th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall.

Twining, P., Heller, R. S., Nussbaum, M., & Tsai, C. (2017). Some guidance on conducting and reporting qualitative studies. *Computers & Education, 106,* A1-A9. https://doi.org/10.1016/j.compedu.2016.12.002

Vaismoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice, 6*(5), 100-110. https://doi.org/10.5430/jnep.v6n5p100

Varpio, L., Ajjawi, R., Monrouxe, L. V., O'Brien, B. C., & Rees, C. E. (2017). Shedding the cobra effect: problematising thematic emergence, triangulation, saturation and member checking. *Medical Education, 51*(1), 40-50. https://doi.org/10.1111/medu.13124

Vasista, T. (2018). SAAS Based E-Court Applications in E-Governance in India. *International Journal of Managing Public Sector Information and Communication Technologies, 9*(3), 01–17. https://doi.org/10.5121/ijmpict.2018.9301

Veletsianos, G., & Shepherdson, P. (2016). A Systematic Analysis and synthesis of the empirical MOOC literature published in 2013-2015. *International Review of Research in Open and Distance Learning, 17*(2), 198-221. https://doi.org/10.19173/irrodl.v17i2.2448

Virtucio, M. B. L., Aborot, J. A., Abonita, J. K. C., Aviñante, R. S., Copino, R. J. B., Neverida, M. P., Osiana, V. O., Peramo, E. C., Syjuco, J. G., & Tan, G. B. A.

(2017). Predicting decisions in the Supreme Court of the Philippines using a natural language processing and machine learning-based framework. *2018 IEEE 42nd Annual Computer Software and Applications Conference (COMPSAC)*, 130-135. https://doi.org/10.1109/COMPSAC.2018.10348

Visser, L. M., Bleijenbergh, I. L., Benschop, Y. W. M., Van Riel, A. C. R., & Bloem, B. R. (2016). Do online communities change power processes in healthcare? Using case studies to examine the use of online health communities by patients with Parkinson's disease. *BMJ Open, 6*(11), 1-6. https://doi.org/10.1136/bmjopen-2016-012110

Vosloo, S. (2018). Designing Inclusive Digital Solutions and Developing Digital Skills Guidelines. *United Nations Educational, Scientific and Cultural Organization*, pp. 1-43. https://en.unesco.org/themes/literacy-all/pearson-initiative/guidelines%0Ahttp://www.unesco

Wahyuni, D. (2012). The research design maze: Understanding paradigms, cases, methods, and methodologies. *Journal of Applied Management Accounting Research, 10(*1), 69-80. https://doi.org/10.1675/1524-4695(2008)31

Walden University. (2015). *Institutional Review Board for ethical standards in research*. http://academicguides.waldenu.edu: http://academicguides.waldenu.edu/researchcenter/orec

Wallace, A. (2019). Ten questions for Dory Reiling - Developing IT for courts. *International Journal for Court Administration*, *10*(1), 1. https://doi.org/10.18352/ijca.293

Wangui, G. (2017). Factors influencing the performance of the judicial system in Kenya, the case of delayed court rulings factors influencing the performance of the judicial system in Kenya, the case of delayed. *International Journal of Law and Policy, 1*(5), 64-72. www.iprjb.org

Watson, A. C., Rukundakuvaga, R., & Matevosyan, K. (2017). Integrated justice: an information systems approach to justice sector case management and information sharing. *International Journal for Court Administration, 8*(3), 1. https://doi.org/10.18352/ijca.233

Watson, H. L., & Downe, S. (2017). Discrimination against childbearing Romani women in maternity care in Europe: a mixed-methods systematic review. *Reproductive Health, 14*(1), 1-16. https://doi.org/10.1186/s12978-016-0263-4

Weckenmann, A., Akkasoglu, G., & Werner, T. (2015). Quality management: History and trends. The TQM Journal, 27, 281-293. https://doi.org/10.1108/tqm-11.-2013-0125

Weers, T. D. (2016). Case flow management net-project - the practical value for civil justice in the international journal for court administration. *International Journal for Court Administration, 8*(1), 32-42. https://doi.org/10.18352/ijca.216

Wells, R. S., Kolek, E. A., Williams, E. A., & Saunders, D. B. (2015). How we know what we know: A systematic comparison of research methods employed in higher education journals, 1996-2000 v. 2006-2010. *Journal of Higher Education, 86*(2), 171–195. https://doi.org/10.1353/jhe.2015.0006

West, S. C., & Moore, J. L. (2015). Council for Accreditation of Counseling and Related

Educational Programs (CACREP) at Historically Black Colleges and Universities (HBCUs). *The Journal of Negro Education, 84*(1), 56. https://doi.org/10.7709/jnegroeducation.84.1.0056

Willar, D. (2017). Developing attributes for evaluating construction project-based performance. The TQM Journal, *29*(2), 369-384. https://doi.org/10.1108/TQM-04-2016-0036

Williams, E. P. (2003). A systems analyst's computer watch: 1943-2003. *IEEE Annals of the History of Computing, 25*(4), 27-39. https://doi.org/10.1109/MAHC.2003.1253888

World Bank Group. (2016). *Digital dividends*. http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUB-Replacement-PUBLIC.pdf

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education, 48*, 311-325. https://doi.org/10.1111/ejed.12014

Yin, R. K. (2014). Case study research: Design and methods (5th ed.). Thousand Oaks, CA: Sage.

Yohannes, M. A. (2017). Challenges and opportunities of women participating in the informal sector in Ethiopia: A special focus on women street vendors in Arba Minch City. *International Journal of Sociology and Anthropology*, *9*(2), 8-16. https://doi.org/10.5897/IJSA2016.0695

Yoon, B., Lee, K., Lee, S., & Yoon, J. (2015). Development of an R&D process model

for enhancing the quality of R&D: Comparison with CMMI, ISO and EIRMA. *Total Quality Management & Business Excellence*, 26, 746-761. https://doi.org/10.1080/14783363.2014.882040

Yüzbasioglu, S., & Babadogan, C. (2016). Recommendations of Participating Teachers on the Application of Lesson Study in Turkey. *Journal of Education and Future, 9*(1), 101-122. https://dergipark.org.tr/

Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A. (2015). Design and implementation content validity study: development of an instrument for measuring patient-centered communication. *Journal of Caring Sciences, 4*(2), 165-178. https://doi.org/10.15171/jcs.2015.017

Zapata-Rivera, L. F., Aranzazu-Suescun, C., & Larrondo-Petrie, M. M. (2020). Teacher training plan for engineering online laboratories composition. *Proceedings of the LACCEI International Multi-Conference for Engineering, Education and Technology*, *18*. https://doi.org/10.18687/LACCEI2020.1.1.672

Appendix A: Interview Protocol

Interview: Exploring the Strategies that IT officers use for digitizing African regional and subregional court processes

A. A personal introduction to the participant and motion of thanks for their participation.

B. Confirmation of the receipt of the consent form and answer any questions and/or concerns of participants.

C. Remind participants that the interview will be recorded

D. Remind participants about the confidentiality of the interview participants.

E. Turn on the recording device and announce the participant's identification code, the date, and the time of the interview.

F. Begin and proceed with the interview from the first question and continue to the last question.

G. Allow the participant to respond to each question and ask additional probing questions as necessary.

Interview Questions

1. What is your experience as an IT officer with digitizing court processes?
2. How would you describe the role of IT officer in the digitization of court processes?
3. What is the importance of ICT infrastructure and ICT literacy in digitizing court processes?
4. How do ICT infrastructure and ICT literacy support African regional and subregional court processes?

5. What are the various factors that IT officers should consider when attempting to digitize court processes in regional and subregional judicial institutions?
6. What are some of the challenges related to the digitization of regional and subregional court processes in the African regional economic communities (RECs)?
7. What strategies do you use for ensuring quality in digitizing court processes in particular in the African regions and sub-regions?

F. Request for any additional information about the topics to the participant.

G. Request for any documentation relevant to the discussed topic to the participant.

H. Discuss the member-checking concept with the participant and attempt to and schedule a follow-up interview to review purposes.

I. Turn off the audio recording device to conclude the recording.

J. Thank the participant for partaking in the study.

K. Confirm the participant has my contact information for any follow-up questions and concerns.

Appendix B: Letter of Cooperation from Case Organization

Frederic Drabo

Doctor of Information Technology Candidate

Walden University

_____@waldenu.edu

Date:

Dear Frederic,

Based on my review of your research proposal, I give you the permission to conduct the study entitled the digitization of court processes in African regional and subregional judicial institutions within the _____. As part of this study, I authorize you to invite IT officers working as Assistant computer system analysts (ACSAs), computer system analysts (CSAs), and Heads of IT (HITs) from our organization who have worked with us for at least 3 years to participate in your study. I also authorize your access to our office building and our public organizational data related to the topic of your research study. Furthermore, I authorize the dissemination of activities results under the conditions mentioned in this letter. Remember that Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include providing access to a quiet and convenient room to interview IT officers working as ACSAs, CSAs, and HITs as well as the public organizational and project documents related to the topic of your research study from our organization. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not be naming our organization in the doctoral project report that will be published in Proquest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

Authorization Official

Contact Information

Appendix C: Invitation Letter to Participants.

Dear _____,

My name is Frederic Drabo, and I am a Doctor of Information Technology candidate at Walden University. I am conducting a doctoral study where I am attempting to find strategies that IT officers use for digitizing African regional and subregional court processes. The experience and knowledge of IT officers working as assistant computer analysts, computer system analysts, and heads of IT in African regional and subregional courts with digitized court processes may help in achieving the purpose of this study.

Your participation in this study involves an initial interview of approximately 60 minutes, a follow-up member checking session of approximately 30 minutes, and is entirely voluntary. If you do not wish to participate for any reason or change your mind, you can withdraw at any time. I intend to carry on interviews and data collection activities during the last week of June 2020. Attached herewith is a letter of cooperation from the head of your organization for your consideration. Feel free to contact me regarding your interest in the study and your participation schedule.

Thank you for your consideration, and I look forward to working with you.

Kindly note and read the attached consent form.

Sincerely,

Frederic Drabo.
Doctor of Information Technology Candidate
Walden University
_____@waldenu.edu