



NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
BANKING AND ACCOUNTING. PROGRAM

**USAGE OF ACCOUNTING INFORMATION SYSTEM
IN NATIONAL NON-GOVERNMENT ORGANIZATIONS IN NORTHERN OF
IRAQ**

MUHAMAD YASSIEN

MASTER'S THESIS

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2020

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IRAQ**

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MASTER'S THESIS

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NICOSIA
2020

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DEDICATION

To my father, Abdullah and mother, Bayan, for their prayers so that I be successful in my life, achieving all my goals.

To my wife, who was always with me and supporting me.

To my handsome son, Laver, who has always given me the energy and power.

To my brother, Niyaz and sisters, Banaz and Andaz, for their fidelity and sincerity.

To my best friend, Shamal, who is like my brother to me. He has all the time been there for help and support...

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All in all, unlimited thanks and love go to my dearest family for their loyalty and great confidence in me. I am greatly indebted to my father Prof. Dr. Abdulla Yassien Amedi who is indeed my inspiration and the man who led me to the treasures of knowledge. And also, I would like to thank my lovely wife Berivan Faisal Hasan for her continuous support to me. Further, my endless love and thanks go to my mother, brother, and sisters

ABSTRACT

USAGE OF ACCOUNTING INFORMATION SYSTEM IN NATIONAL NON-GOVERNMENT ORGANIZATION IN NORTHERN OF IRAQ

Technological advancement has made accounting information systems an integral part of any organization. Other companies use standardized systems to ensure comparability and reporting. However, national nongovernmental organizations in Northern Iraq are still lagging behind. This has caused some problems between them and the donors that they are accountable to. The researcher thus sought to establish the usage of accounting information systems in that region; and to determine if the organizations are capable of designing their own systems according to international standards. The researcher evaluated their usage, competence of users, quality of systems, design capability and their effect on financial reporting. The study employed surveys and interviews for data collection from nongovernmental organizations employees from several departments that used accounting information systems. Data was analyzed with the help of SPSS package for the quantitative part and a thematic analysis for the interviews. The results of the study revealed a positive and significant association between accounting information systems and financial reporting. It also revealed that user competence had the greatest association. However, the results also revealed that the NNGOs generally lacked the capacity to design own AIS because of reasons like lack of funds and expertise. They also had educated workforce but not enough people with accounting background and these were not capable of effectively utilizing systems. In addition, their internal controls were moderate. Despite the development in technology some were still using manual systems.

Keywords: accounting information system; internal control; user competence, AIS quality; AIS design; financial reporting

OZET

USAGE OF ACCOUNTING INFORMATION SYSTEM IN NATIONAL NON-GOVERNMENT ORGANIZATION IN NORTHERN OF IRAQ

Teknolojik ilerleme, muhasebe bilgi sistemlerini herhangi bir organizasyonun ayrılmaz bir parçası haline getirdi. Diğer şirketler, karşılaştırılabilirliği ve raporlamayı sağlamak için standart sistemler kullanır. Ancak, Kuzey Irak'taki ulusal sivil toplum örgütleri hala geride kalıyor. Bu, kendileriyle sorumlu oldukları bağışçılar arasında bazı sorunlara neden olmuştur. Araştırmacı böylelikle o bölgede muhasebe bilgi sistemlerinin kullanımını kurmaya çalıştı; kuruluşların kendi sistemlerini uluslararası standartlara göre tasarlayıp tasarlayamayacaklarını belirlemek. Araştırmacı, kullanımlarını, kullanıcıların yeterliliklerini, sistemlerin kalitesini, tasarım yeteneklerini ve finansal raporlamaya etkilerini değerlendirdi. Çalışma, muhasebe bilgi sistemlerini kullanan çeşitli departmanlardan sivil toplum kuruluşları çalışanlarından veri toplamak için anketler ve görüşmeler kullandı. Veriler, nicel kısım için SPSS paketi ve görüşmeler için tematik bir analiz yardımıyla analiz edilmiştir. Çalışmanın sonuçları, muhasebe bilgi sistemleri ile finansal raporlama arasında olumlu ve önemli bir ilişki olduğunu ortaya koydu. Ayrıca, kullanıcı yeterliliğinin en büyük ilişkiye sahip olduğunu ortaya çıkardı. Bununla birlikte, sonuçlar ayrıca ulusal sivil toplum örgütü 'ların fon ve uzmanlık eksikliği gibi nedenlerden dolayı genel olarak kendi Muhasebe bilgi sistemi'yi tasarlama kapasitesinden yoksun olduğunu da ortaya koydu. Aynı zamanda eğitimli işgücü vardı, ancak muhasebe geçmişi olan yeterli sayıda insan yoktu ve bunlar sistemleri etkin bir şekilde kullanamıyorlardı. Ayrıca iç kontrolleri orta düzeydeydi. Teknolojideki gelişmeye rağmen bazıları hala manuel sistemler kullanıyordu.

Anahtar Kelimeler: muhasebe bilgi sistemi; dahili kontrol; kullanıcı yeterliliği, Muhasebe Bilgi Sistemikalitesi; Muhasebe Bilgi Sistemi tasarım

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LIST OF ABBREVIATIONS

NGO:	Nongovernmental Organization
NNGO:	National Non-Governmental Organization
IASB:	International Accounting Standard Board
AICPA:	American Institute of Certified Public Accountants
AIS:	Accounting Information Systems
IFRS:	International Financial Reporting Standards

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter acts as the snapshot into the whole study. It highlights the concepts that are used in this study and acts as a framework for it. In addition, since the focus of this study is in national non-governmental organizations, this chapter provides the overview of the situation in Northern Iraq with regards to the Non-governmental Organization operations within that region. It also provides the background of this study so that the foundation upon which the study is built can be understood. The model for this study was also provided in this chapter as it reflects the independent and dependent variables that were under study as well as their possible connections. It is upon this model and supposed relationships depicted in it that the hypotheses were formed and these would be tested in later chapters. Furthermore, the chapter also highlights the statement of the problem upon which the research objectives and the research questions that guided the study were formulated.

The significance of the study was also highlighted in order to provide understanding of the benefits the exploration into this study would bring to various stakeholders like the national non-governmental organizations, any companies that use accounting systems, financial institutions, other scholars as well as the researcher himself. The chapter also provided the justification for the study as a way of pointing out the reasons and importance of undertaking this study. The researcher also pointed out the limitations for this study and these will also provide the basis for recommendations for future studies. Lastly, the chapter provides a breakdown and brief summary of other chapters in order to provide a glimpse into the contents of the full study.

1.2 Background of the Study

Businesses have thrived over the years because of information. In fact, they rely on information in order to determine investment plans and map way forward in terms of planning. It is through information that they use available

resources to increase market share, amass profits and gain returns. However, for this information to be effective it has to be accurate, reliable and properly organized and this led to the increased need for accounting information systems (Kanakriyah, 2017).

Organizations use a variety of tools in decision making. According to various scholars the accounting information system is one of the most important and effective tools utilized by the accounting personnel in the organization for vital decision making, control and performance management purposes. Accounting provides a way for the company to evaluate business transactions and the economic environment to determine the issues that are affecting the business operations. Accounting information systems in turn, provide a methodical way of organizing important accounting information on various transactions which is utilized in the business operations ((Wilkinson.J. W., 2000); (Chloe, 1996), (Gebremedihin., 2019). They serve to reduce and sometimes eliminate the uncertainty that comes with decision making especially in instances where there is limited information. This therefore means the availability of a strong accounting system means tasks are understood more clearly.

The Northern Iraq region has been plagued by different crises over the years ranging from civil and international wars, uprisings, economic disruption and an influx of refugees from other countries. This necessitated the need for NGO intervention and these companies have been working tirelessly in a bid to alleviate poverty, reduce the economic impact and provide essential needs to the affected population. There is a need however, for there to be policies and systems in place to ensure accountability, transparency and adherence to relevant statutes.

There is a notable lack of standardized accounting information systems procedures related to national NGOs in the Northern Iraq region. This presents a challenge in tracking financial records as well as creation of professional reports. The NGOs are accountable to the donors where their funds come from and there should be a high level of transparency so that these funds' usage can be explained.

There is need for accounting information in order to understand and make wise financial decisions. This vital information can be obtained from the accounting information system hence its importance. In addition, for management to be in a position to make good strategic decisions, they rely on accounting and financial information. This enables them to make budgets, forecasts as well as to make vital long term logical decisions. It is upon these strategic decisions that the way to achieving long term goals is mapped on. According to (Rahman, 2016) accounting information systems assist the management with vital information related to the company's corporate vision. In addition failure to do this may have negative or fatal consequences for the company in the long run. They therefore play a huge role in making the decision making process effective.

Accounting information systems also serve to enhance the quality and effectiveness of financial information as they are vital in understanding the accuracy and authenticity of financial standing of the firm. The accounting function is responsible for the preparation of financial statements that are needed by the internal as well as external stakeholders. This information is then used in various projects by these stakeholders like investment analysis and weighing the costs and benefits before the company engages in a project; hence ensuring that the management and stakeholders make informed decisions (Tunji, 2012). In addition, where there is a good accounting information system, there are higher chances of making quality financial decisions which lead to profit maximization and optimal allocation of scarce resources within the organization. It is also through accounting systems that validity is assured through the process of auditing and accountability (Gebremedihin., 2019)

It should however, be noted that accounting information systems on their own are not as effective. There needs to be a good workflow design in place that facilitates the efficiency and effectiveness of the accounting information system (Kanakriyah, 2017). Accounting information systems need to be properly designed, built, organized, maintained and protected. In addition, the accounting system has to be reliable, and of high quality since it consists of different elements working together in synchrony.

This means therefore that the hardware, software, databases and all the other elements should be working efficiently. Since accounting information systems are used for important activities like forecasting, decision making, coordination and planning; they should be flexible, user friendly and efficient in order to produce reliable information that can be employed for timely decisions. In addition, accounting information systems also affect various departments activities not just the accounting function; but also the marketing and finance department; hence the increased need for quality and efficiency in the system for the integration to be effective. Lack of this would result in unreliable information and this has negative consequences on the performance of a business and may even prove to be costly. For example, if the company uses inaccurate information in decision making, this could lead to the damage in reputation of the company; failure to use existing opportunities, losing clients, and profitability, among other things (Faride, jalili, & Nia, 2014)

1.3 Statement of the Problem

Commercial and non-governmental organizations both produce and report financial statements. However, non-governmental organizations are not for profit therefore their reporting often differs from the commercial companies. Most studies conducted with regards to accounting information systems were focused on the commercial companies. There is therefore need to determine the usage of accounting information systems in not for profit companies. In addition, the researcher could not find any studies on accounting information systems in the Northern Iraq region in particular in national non-governmental organizations (NNGOS) which will be the focus of this study. This makes the study one of a kind and this gap is what the researcher seeks to fill and determine how accounting systems are utilized in NNGOs in that region. The researcher hopes to provide new literature with regards to accounting information systems in the digital age in national non-governmental organizations in Northern Iraq and the Middle Eastern Region at large. This information may especially be vital to the design of an accounting information systems framework on a national level. This study is also essential looking at how there are so many NNGOs in that region.

1.4 Justification for the Study

Studies into accounting information systems are on the low (Grabski, 2011); (Bredmar, 2012). According to (Granlund, 2011), there is a lack of interest in the subject as it is considered to have a low impact on the accounting and information systems. However, the business environment is a dynamic one meaning there are so many developments taking place especially with the continuous information and technology changes. This means that there is need for constant checking into the systems to ensure that they are aligned with the developments in the external environment.

Considering that the accounting systems are susceptible to illicit activities, it is vital that new information and any changes be depicted early on to ensure and maintain the accuracy of financial statements and their effectiveness so that they can always be relied upon to reflect the true position of the company (Awosejo, Kekwaletswe, Pretorius, & Zuva, 2013). A study into the accounting information systems at this point is also necessary to observe any new changes in relation to the subject, if any.

In addition, according to (Carolyn Cordery, 2019), there is a higher need for accountability as far as non-governmental organizations are concerned. However, their activities are highly diversified and this makes it a challenge to design standardized accountability processes that fit all of them. A study like this one thus has a potential to offer some solutions and guidelines into the designing of an effective accounting information systems; or at least provide information that can lead stakeholders in the right direction.

Lastly, information is the most powerful thing a company can have. Lack of accurate and reliable information can lead to bad decisions, some of which are irreversible and may adversely affect the reputation, profitability and financial performance of the company (Susanto, What Factors Influence The Quality Of Accounting Information, 2015). Therefore studies into the designing of effective accounting information systems are of utmost importance. Accounting information systems therefore ensure that risk and uncertainty are decreased and that there is increased confidence in the information produced from the system (Esmeray, 2016)

1.5 Overview of NGOs in Northern Iraq

According to the NGO Co-ordination Committee for Iraq, there are around 180 non-governmental organizations in the Iraq region. These consist of local as well as international organizations with the majority being foreign ones and around 72 being the local ones. The NCCI was set up in 2003 with the mandate to co-ordinate NGO activities, improve development, and see to humanitarian needs whilst ensuring that the rights of the people were observed. The organization has presence in almost all of the cities and towns in the Iraqi region and act as the liaison between interested stakeholders internally and externally.

The NCCI also serves to ensure that the needs and rights of the people are observed, working with the government and other stakeholders. They also offer capacity building services and support to NGOs. They however do not replace the government but work in tandem with them conducting relevant research in various areas like determining government regulations impact and sharing that information with the government and other relevant authorities.

According to (Francia, 2005), the presence of NGOs in Northern Iraqi can be explained over certain events in that region. Their first presence and activities can be attributed to the post uprising of the Kurdish in 1991 which led to massive displacements of the people towards Turkey and Iran borders. This led to the United Nations and some NGOs intervening to provide aid like healthcare, sanitation, rehabilitation and general care to the displaced families. However, this ended in 1996 when the Food Security Resolution was passed which led to most NGOs leaving. The few who left had reduced funding over the years till they also closed down operations.

However, the region also saw an influx of refugees in recent years leading to 2020, amidst the already existing humanitarian crises, with most of these coming from Syria. This followed the activities of ISIS rebels that resulted in displacements of people. The need for humanitarian aid became immense. According to the Hannouche Law, this led to a rise in the number of registered non-governmental organizations to 2800 and also led to the establishment of

an independent legislative branch, regulations and bylaws that dealt with the activities of non-governmental organizations. All local non-governmental organizations should be registered and provide details of their proposed activities. According to (Smail, 2019), NGOs in the Northern Iraq region have also taken part in law deliberation in the form of consultations, law drafting and training among other things.

1.6 Significance of the Study

The study is of utmost importance to the researcher as it is a new topic that has not been covered before. It is noted that there is lack of standardized accounting systems in the Northern Iraq region and as such the information that will be uncovered in this research can be very vital to the design systems of AIS in NNGOs. In addition it can help the NNGOs to be more transparent such that their accountability to donors is enhanced. The quality of financial statements and reports is also most likely to improve and increase the level of professionalism. In addition, it may also help NGOs improve their policies such that they can easily be eligible to secure funds from donors which will be helpful in cases where they were initially considered high risk.

The research is also of great importance to the literature. As a territory that has not seen much attention before in the Northern Iraq region, this study has the potential to uncover new data. This can be a great contribution to existing literature and can be used as a foundation for future studies by other scholars. It may also bring to light new contribution to science which on its own can open opportunities to other possibilities and other areas of study.

Lastly, the research is a requirement for the fulfillment of the requirements for the award of the Master's degree to the researcher. The researcher worked in the humanitarian sector years before and therefore to him this is not just to acquire his qualification but the researcher has a personal interest in the subject as well.

1.7 Objectives

The objective of this study is to understand the usage of Accounting Information Systems in Northern Iraq and how they can be harnessed to improve reporting for NNGOs in Northern Iraq according to international standards that will assist them to;

- Show professionalism in project implementation in terms of finance.
- Increase transparency.
- Be considered as low risk by donors that will make them eligible for receiving funds to implement humanitarian response projects.
- Improve accountant competence in usage of accounting information systems in National NGOs' financial reports.

1.8 Research Model

This represents the model that was used as the framework for the study; highlighting the independent and dependent variables as well as the possible relationship between them. The model is shown in Figure 1.1 below.

Independent variables
variables

dependent

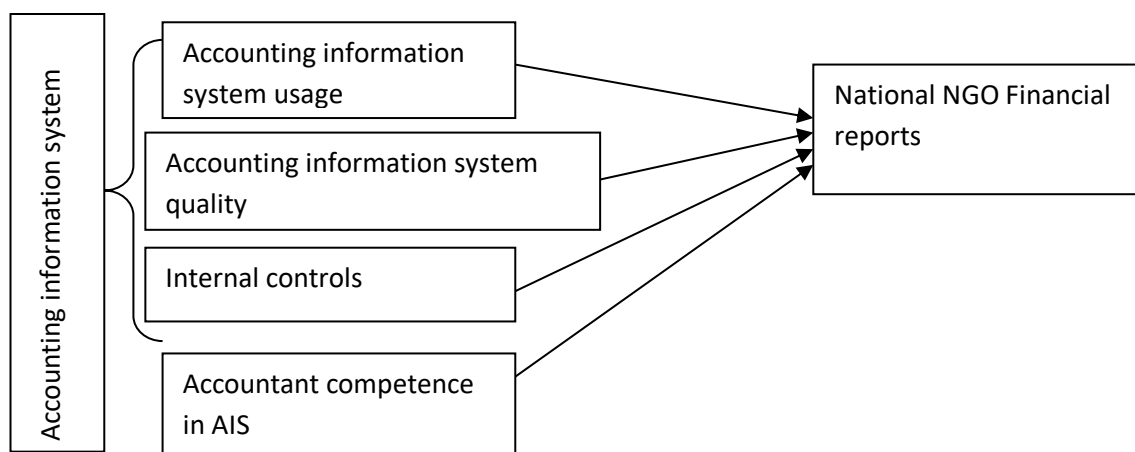


Figure 1.1: Research model

1.9 Research questions

- What is the impact of accounting information system on the financial reports of National NGOs?
- What is the effect of accounting information system quality on the financial reports of National NGOs'?
- What is the impact of internal controls in accounting information systems on the National NGOs' financial reports?
- What is the role of the accountants' competence in using accounting information systems on the National NGO financial reports?
- Are the NNGOs capable of designing their own accounting information systems according to international standards?

1.10 Propositions

Hypothesis 1:

Null Hypothesis: There is no relationship between the Accounting Information system and financial reports in National NGOs.

Alternative: There is a relationship between the Accounting Information system and financial reports in National NGOs

Hypothesis 2:

Null Hypothesis: The Accounting information system quality does not affect financial reports in National NGOs.

Alternative: The Accounting information system quality affects financial reports in National NGOs

Hypothesis 3:

Null hypothesis: The effectiveness of internal controls in accounting information systems does not affect the financial reports of NNGOs

Alternative: The effectiveness of internal controls in accounting systems affects financial reports in NNGOs

Hypothesis 4:

Null Hypothesis: An accountants' competence in AIS does not affect in generating financial statements in National NGOs.

Alternative: An accountants' competence in AIS affects generation of financial statements in National NGOs.

1.11 Limitations

This study focused on the usage of accounting information systems and their impact on financial reports in the Northern Iraq Region on NNGOs. The study did not incorporate any mediating or moderating variable for the effect of accounting information systems. These potential relationships can be employed in future studies. In addition, the researcher only focused on NNGOs and a comparison between NNGOs and government owned companies or international NGOs can be observed under a study in the future.

1.12 Chapter breakdown

Chapter1

This chapter provides the literature review for the study. It explains in detail the theoretical perspectives from previous scholars concerning accounting information systems and their impact on financial statements and financial reports in NGOs as well as other companies. In addition, this chapter also presents some suggested models for the design of an effective accounting system. The chapter also provides the conceptual framework which is the foundation upon which this study was conducted. This highlights the independent and dependent variables employed by the study and the subsequent hypotheses that were deducted from them. Lastly, it also presents the empirical literature as findings from other studies across the globes with regards to accounting information systems.

Chapter 2

This chapter focuses on the methodology employed for this study. This highlights the research design that was employed as the framework for this

study. It focuses on the methods and approaches that were used, the sample and subsequent sampling technique the researcher used. It also explains in detail, the research instruments used in the study and the justification for their usage. Furthermore, the chapter also gives a highlight of the analysis of the study, pointing out the methods and presentations that would be employed to analyze the obtained data.

Chapter 3

This chapter focuses on the in depth analysis of the collected data. The tests include reliability tests to determine reliability of research instruments. It also includes tests to determine the relationships between the independent and dependent variables; and it is from them that the hypotheses are tested and answers to the research questions determined. The findings are presented in tables.

Chapter 4

This is the last chapter in the study where the researcher uses the findings from the previous chapter to draw conclusions regarding the subject matter. Comparisons are drawn between the literature and the findings and contribution to science, if any, is determined. The researcher gives recommendations for future studies to other scholars as well as provides the implications for this study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter provides the theoretical and empirical perspectives related to accounting information systems. It goes into detail on the theories that guide usage of technological systems in organizations and the types as well. In addition it highlights issues related to impact of accounting systems and quality of accounting systems on financial reports; the role of accountants and the role of internal controls on financial reports. The chapter also provides detail on designing an accounting information system and issues in accounting information systems. Lastly, the researcher provides empirical literature in order to highlight studies and findings related to accounting systems from across the globe. These were used later for comparisons between findings and theoretical perspective in order to determine contribution to science.

2.2 Accounting Information Systems

According to (Boockholdt, 1999), accounting information systems refer to the computer based systems that are responsible for the collection, processing, storing and reporting of financial information to the end users. They are used along with information technology in order to track accounting activity (Belfo, 2013). These help in the co-ordination of information and internal decision making (Nicolau, 2000). (Athambawa, 2018), defined accounting information system simply as the collection, storage and provision of financial information to the relevant users. (Ganyam, 2019), explained that an accounting information system supports the owners and stakeholders' activities by timely furnishing them with data and information related to the organization.

Accounting information systems consists of documents, procedures, reports, and business ledgers that are used by the companies to store operations, not to mention the feedbacks for its effects, that is because the effective and efficient management of the organization depends on a healthy accounting system (Neav EH, 2009). These documents include receipts, ledgers, invoices

and worksheets among others and these are intended to provide relevant, reliable and accurate data. (Odero, 2014) ,explained that the role of accounting information systems was to provide financial information, monitoring and evaluating the financial well-being of the organization, supplying essential information in the form of documents and providing support for the management. This was also supported by (Shuhidan & Nor'azam Mastuki, 2015), who pointed out the importance of the accounting information systems as an essential tool in the organization. They explained that this is because they are used to provide relevant and timely financial information to the management, owners and stakeholders of the organization with regards to costs, performance, standards as well as targets. They are also used as a form of control tool through processes like budgeting that ensure that the organization is not overspending funds or underutilizing them; as well as providing a plan for how all the funds are to be spend.

2.3 General Model for Accounting Information System

The general model for accounting systems shows the interconnectedness of the elements of an accounting information system. This is shown in Figure 1.2 below.

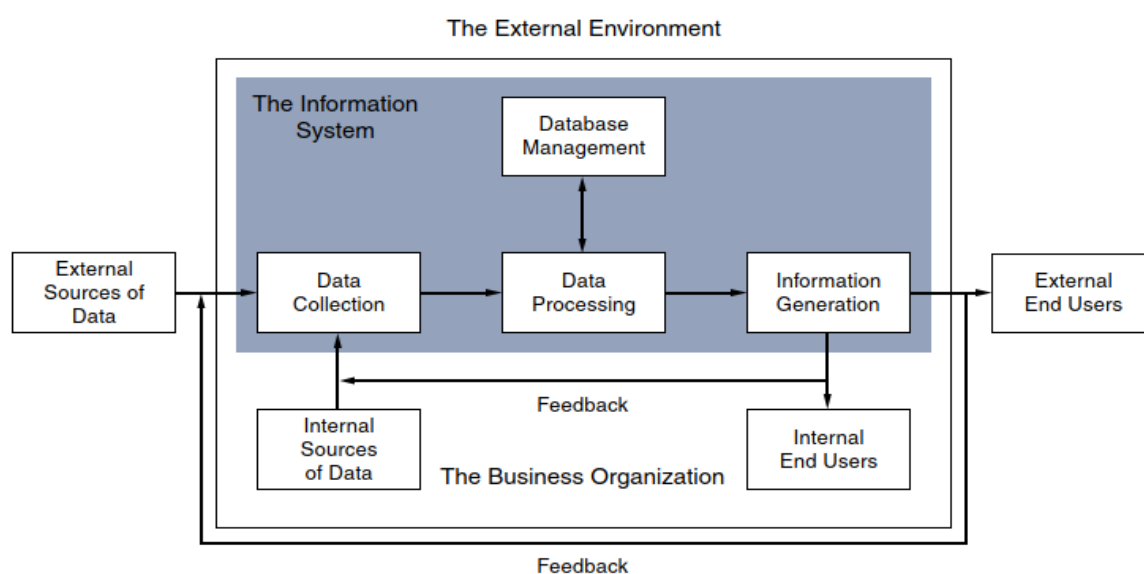


Figure 1.2: General Model for accounting information systems (Hall, 2011)

The diagram above shows the general model for accounting information system which highlights the process of an accounting information system. According to (Hall, 2011), the accounting information system comprises of different components. These include internal and external users, financial resources that are inputs from the data resources. It also includes data collection where accurate and reliable data is entered into the system. The data is processed and statistical tools are employed in this activity to turn the data into useable information (Allahverdi, 2011).

The database management is responsible for storage of the vital financial information. It is also where relevant information is retrieved to be used and old invalid information is deleted to make way for new and important information. After the data is processed, information generation comes in and presents the data as information for the use of relevant parties. The relevant parties ensure that the information is correct, appropriate and summarized in a way that briefly explains the contents depending on the final user it is being generated for. Feedback will have the users reporting their responses and these form internal data sources and the whole process starts again.

2.4 Accounting Information Systems Components

According to Tan (2015), accounting information systems come in six different categories namely people, data, controls, information technology infrastructure, software and procedures.

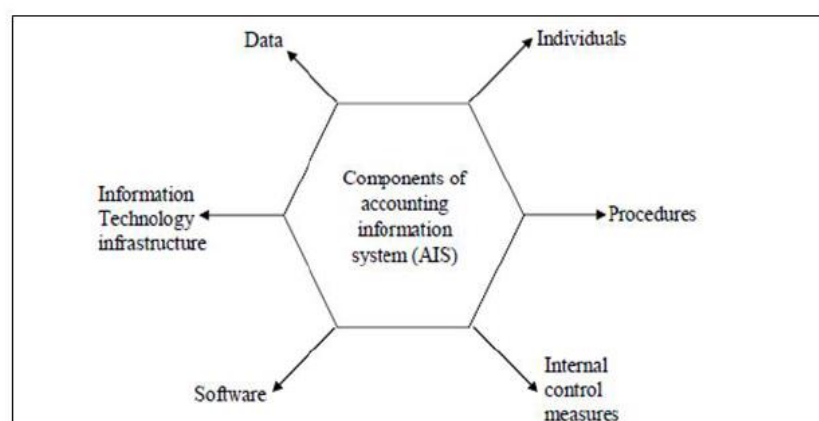


Figure 1.3: Accounting information system components (Romney, 2006)

The individual or people aspect refers to the users of the system, the professionals like financial analysts and managers among others. This encompasses internal and external users. Accounting information systems reflect to internal users, information like growth of the company, profitability, financial structure and any potential risks (Munteanu, Scarlat, & (Dragnea), 2017). External users use the reports generated from the accounting information systems to assess liquidity, solvency and profitability of the organization in order to determine if they should grant loans and funding. Accounting information systems may help co-ordinate the activities of different professionals across different departments. A good accounting system will help the management to come up with goals that are used by the inventory department to determine quantities and raise requisitions. The accounting department will then provide the finances for this to take place.

The data refers to the financial information that is collected for the purpose of being processed and analyzed into meaningful form (Romney, 2006). This may include invoices, requisitions, inventory related data, payroll information and sales orders among others. Any information that may be considered to have an impact on the business finances and business practice should be found in the accounting information system. The organization must also have a database for data retrieval. It also enhances record keeping and makes reporting easier.

Internal controls are the measures that are put in place to protect the data from exploitation and third parties through methods like limited access to data. Accounting information systems usually contain sensitive data that should be protected always like employee personal details, salaries, banking details, customer information, the organization and suppliers' financial data. This means that access to the system should be monitored to ensure that it is not being accessed by the wrong people, and should be encrypted as well. There should be measures in place to ensure that all activities in the accounting system can be traced to the user to ensure that if something illicit happens the source is detected and measures taken accordingly (Odero, 2014). An accounting system just like any other computed based system is prone to hackers and viruses, power surges and outages, natural disasters and so forth.

There should be appropriate measures in place to deal with all these activities and security must definitely be top notch to enhance security.

The information technology infrastructure relates to the hardware that is intended for the operation of accounting information system. This includes the devices like computers, servers, printers and storage media among others. The hardware is usually used in conjunction with the software hence there is need to ensure that the two are compatible. An organization must consider things like efficiency, speed, upgrade options and costs before acquiring any hardware for the organization. In addition, with the ever increasing advancements in technology, the organization should ensure that outdated hardware is upgraded or disposed of. It should also be regularly serviced to ensure that it is not affected by bugs and to ensure optimum working conditions as well.

Software refers to the computer based programs that are employed in the gathering, processing, analyzing and storage of the information. Some common accounting information systems include QuickBooks, Sage Accounting and Dynamics GP among others. The software used usually depends on the size of the company as some software is ideal for small businesses and others for medium and large businesses that handle bigger and complex transactions (Saeidi & G.V. Bhavani Prasad, 2015).

For other companies like public companies the structure of the business will be affected by their professional regulation which may determine the accounting information system set up (Baghersefat, Zareei, Bazkia, & siavorodi, 2013). An example of this is the Sarbanes-Oakley Act (2002) that determines the structure of public companies accounting information system with regards to auditing and internal control issues (Fachri & Mediaty, 2019). There is need for the management to be able to rely on the outcomes of the accounting system as those will be employed for strategic planning and decision making. The accounting information system software should thus be of great quality, secure and reliable for it to be effective (Sacer & Oluic, 2013).

Lastly, procedures relate to the subsequent methods in data collection, retrieval and storage. (Fontinelle, 2020), explained that these procedures can

be manual or automated, internal or external. The scholar also pointed out that these need to be inputted in the software system and at the same time should be drummed into the employees through training and documentation.

2.5 Categories of Accounting Information Systems

According to (Hall, 2011) define usage of accounting information system as the organization's ability to have an accounting information system for the purpose of furnishing users with accounting information. (Belfo, 2013), explained that accounting information systems are divided into three categories relating to their usage. These are Transaction Processing System (TPS), Financial Reporting System (FRS) and finally the Management Reporting System (MRS). The transaction processing system is responsible for the daily business operations, dealing with the revenue, expenses and conversions (Hall, 2011)

According to (George H. Bodnar, 2014), the transaction processing system is at the centre of the accounting information system and is the function responsible for recording financial transactions so that financial reports can be generated (Saeidi & G.V. Bhavani Prasad, 2015). The financial reporting system in turn uses the information generated in the transaction processing system and converts it into reports that are used by the relevant parties like owners and other stakeholders. Information from the transaction processing system is summarized in the general ledgers and then measured in the financial reporting system to determine the financial position or status of the organization (Kanakriyah, 2017). This is revealed in the financial statements and other reports and documents related to the organization (Carolyn Cordery, 2019). The Management Reporting System provides information that is specific to the management which they utilize in decision making. This includes information related to activities like budgeting, accountability and responsibility, operations, variance analysis, and other information related to strategy formulation.

(Samer, 2016), also pointed out that there were other subsystems of accounting information systems namely customer, supplier, inventory and

payroll system. The customer accounting information system deals with all customer related issues; from debts, monthly accounts to credit reports. This type of accounting system enhances the process of payment and collection of debts. The supplier accounting system deals with information regarding procurement and payment of suppliers. It enhances this process and makes controls on outgoing payments more transparent. The inventory system deals with the storage and supply of inventory. It helps the organization put detective controls in monitoring inventory to eliminate pilferage and mishandling of inventory. It also helps to efficiently check levels of inventories and make refills accordingly. The payroll system is responsible for the payment of remuneration to the employees of the organization. It helps the company with salary disbursements and providing relevant reports like tax returns.

2.6 Importance of Accounting Information Systems

According to Pena-Miguel and La Pena (2017) accounting information systems use information technology resources and they have changed the way employees especially accountants work. (Ghasemi, 2011) pointed out that accounting information systems have resulted in improved functionality of accountants. They explained that accounting information systems have resulted in better quality of financial statements as reliability, timeliness and accuracy of these statements has been improved by the automated system. The financial statements now represent a truer picture of the situation.

(Ghasemi, 2011), pointed out that accounting information systems have provided the accounting personnel and the management with a variety of software tools at their disposal to make their work better, effective and more efficient. These have assisted the personnel with regards to income tax, electronic funds transfer, image processing, graphic software and data capturing among others. They have also improved the timeliness of financial information as reports are available at the time they are needed (Mitrovic, 2016). They also pointed out that customization of reports is enhanced. This was also supported by (Wan Zuriati Wan Zakaria, 2017) who pointed out that accounting information systems enhanced task efficiency in the organization

but there needed to be a fit between the task and the system; and this would lead to higher performance as a result of meeting individual needs.

(Tan, 2016), explained that accounting information systems enhanced financial reporting through internal control. They encouraged compliance with the laws that govern accounting like the Generally Accepted Accounting Standards (GAAP). Accounting information systems put an emphasis on preventive controls like limited access to company data. It also focuses on production of accurate, reliable and relevant information. This means that the combination of preventive and detective controls help to ensure that no illicit activities take place and if they do they can be detected. In addition it also helps in minimization of errors and ensuring that financial statements reflect the true position of the company. In addition (Mitrovic, 2016) pointed out that accounting information systems also improved external reporting. This is because they resulted in improved and more reliable financial reports. These would then be used by investors to evaluate investment options and make decisions based on the reliable information.

Nongovernmental organizations have a fiduciary duty to account for their activities to donors with regards to the movement of finances in the organizations (Iskandar & Setiyawati, 2015). Accounting information systems help in providing details on where funds were diverted to which activities which also ensures transparency and accountability in business activities and easy tracing of activities. .

According to (Tarigan & Devie, 2015), accounting information systems also assist the organization in attaining a competitive edge over their rivals. They explained that it provides crucial information that is used in benchmarking. The information can be successfully used to monitor and assess the competition and to make strategic plans. The information is also used by the company in improving their products and services which ultimately results in increased customer satisfaction.

Accounting information systems have also been found to increase knowledge management processes in an organization (Romney, 2006). They explained that accounting information systems facilitate the storage of huge amounts of

information and help the company retain and preserve vital information from previous years. (Alikhani, Ahmadi, & Mehravar, 2013), pointed out that accounting information systems facilitated knowledge sharing within the organization, a notable example being that of the audit function which transfers skills to other departments through the accounting information system. This promotes learning in an organization as the organization can use this information to make important evaluations in performance (Tarigan & Devie, 2015). It is also shared and used as a basis for innovation and creativity.

Accounting information systems also play a vital role in decision (Ortega & Ramírez, 2017). They have a positive and significant impact on management decision making (Shuhidan & Nor'azam Mastuki, 2015). As accounting information systems result in accurate and more reliable information; quality of accounting information is increased. This means that management can make decisions with more certainty and there is less risk of errors or making the wrong decision. (Ortega & Ramírez, 2017), explained that accounting information systems result in the production of relevant and timely financial information. The managers rely upon this information to make calculated and informed decisions (Esmeray, 2016). Timely information also allows the management to make decisions in time, after careful evaluations.

2.7 AIS Design

According to Fontelle (2020) the design of the accounting information system should be in such a way that it meets the requirements of the end users. It should also be designed in a way that makes it easy to upgrade and adjust in the event of changes being needed. In addition, they explained that the accounting information system should also be user friendly in order to enhance efficiency. (Ahmed, 2003), explained that an accountant within an information system plays the role of user, manager, designer and evaluator (Odero, 2014), explained that accountants as system designers played a very crucial role as they are the ones that the ones with most capabilities and information to design the system.

(Odero, 2014), further pointed out that traditionally when manual systems were still in use; accountants were responsible for designing the system through

defining AIS content, determining the needs of the users and other things. However, with the onset of computerized systems, accounting principles got violated as accountants lacking experience and training with automated systems took responsibility for designing the systems (Saeidi & G.V. Bhavani Prasad, 2015). This also resulted in weakened control systems. This is the reason there were so many frauds and accounting scandals as a result of accounting information systems failure during the time computerized accounting systems were first adopted. The responsibility of designing accounting systems is now the role of information technology specialists and accountants with the former being responsible for the physical aspect and the latter in charge of the conceptual aspect. Controls should be matched to the organizational environment as this is associated with better organizational performance.

Prior studies by (Gul, 1991) attempted to explain how an accounting information system should be designed. They explained that they would be designed according to the information characteristics. They also explained that this would depend on the scope, timeliness, aggregation as well as the level of integration. The information should reflect events in relation to the future and the past; monetary and non-monetary terms; internal and external events. In addition it should be designed in a way that reflects the frequency of reporting. Integration would reflect co-ordination between different business functions whilst aggregation would reflect the way the information is arranged according to things like function and time. (Soudani, 2012), also pointed out that some organizations were now trying to design accounting systems with financial performance in mind.

The Resource Based View (RBV) propounded by (Barney, 1991), explained that a business gains sustainability through competence, skills and capability. Accounting information systems is a vital tool that provides these advantages to the organizations. These also explain the organization's management and utilization of resources. If an organization manages their resources well, employing all the necessary and relevant skills, then they will increase their capability and sustainability. Likewise, if an organization manages their

accounting system well they will be able to do activities and tasks in a superior manner (Ganyam, 2019).

According to (Bukunmi, Olusola, & O, 2018), the contingency theory explains that management should be more inclined to adopt a flexible accounting information system design. This is to ensure that in case of any changes in the environment, internal and external, the organization is in a position to deal with the situation in a strategic manner. This was also supported by (Mitrovic, 2016), who explained that accounting information systems have to be flexible in a modern company as this would allow it to adapt and adjust to the external environment whilst still being able to provide the needed information.

(Odero, 2014), explained that when it came to accounting information systems, there was no one size fits all; therefore one accounting information system cannot be applied to every situation. The accounting information systems should be designed in a manner that allows them to be adaptable. They also pointed out that accounting information systems are contingent upon factors like organizational strategy and the external environment among others.

(Bukunmi, Olusola, & O, 2018), also pointed out that different organizations had different structures with some being more rigid in the way information travels up the chain of command. The accounting information system in place should therefore be one that aligns with the organizational structure but one that makes information easily accessible to ensure quick reactions to influences. (Shareia, 2016), also explained that an accounting information system should be designed in a way that reflects the environment that it is established in. They pointed out that most accounting information systems in developing countries are adopted from developed countries whose economic, social and cultural environment is usually different from that in developing countries. As a result accounting information systems in developing do not reflect the environment they will be operating in; hence they fail to serve the needs of the users and stakeholders. This also leads to poor planning.

2.8 Quality of Accounting System

According to (Dmour, 2017), it is vital to have an accounting system that is of good quality as this enhances the reliability of the system. An unreliable system is problematic and has ripple effects (Menna Tarek, 2017)). It is also seen by the frequent accidents and failure of users to access information. They explained that an unreliable accounting system is vulnerable to attacks from viruses, hackers and unauthorized access. This results in loss of important data or the company data being used maliciously to destroy the reputation of the organization. Once the system is breached then there will also be loss of privacy and trust. A weak internal control would also result in the above as well as the quality of financial reporting as it leaves room for exploitation and manipulation of data (Ramdany, 2015). A well designed internal control system would therefore protect the accounting system and ensure its reliability (Topash, 2014).

The American Institute of Certified Public Accountants (AICPA, 2013) and the Canadian Institute of Chartered Accountants (CICA) recognized the importance of having a high quality accounting system and developed the SysTrust service. This is a service that is used by certified public accountants and licensed accounting practitioners to independently test the reliability of an accounting information system and provide assurance of its quality (Dmour, 2017)

According to (Sacer & Oluic, 2013), maintenance of an accounting system depends on the quality of the information system components therefore if the components are of high quality it is easy to manage the accounting information system. They explained that the accounting information system quality is of utmost importance and features of an accounting system are used to determine its benefits. These features include principles of accounting information system operation, accounting process quality, accounting information system coverage, accounting information systems development and this can also be determined from the opinion of the accountants.

The (AICPA, 2013), set out some principles that can help determine the quality of the accounting information systems. Accounting practitioners use some of

these principles to draw conclusions and provide an opinion on the reliability of the accounting information system in question (Dmour, 2017). These are availability of information; security of the system, confidentiality of information, processing integrity of information and privacy; including checks on relevant disclosures (AICPA, 2013). (DeLone, 2003), also laid out measures of a successful information system. These were divided into six categories namely use, individual impact, organizational impact, system quality, use, and user satisfaction and information quality.

(Al-Sibaei, 2010), laid out characteristics that make up a quality accounting system. These are alignment, integration, differentiation, flexibility and response. They explained that an accounting system should be aligned to the environment and duties of the employees. It should also be able to meet the needs of the user so that the users are able to use it in decision making. Integration was essential to enable the accounting information system to work well with other functions from the different departments so that information is easily accessible to all the users and that they will find the same information (Aldegis, 2018). Differentiation should ensure that there is a distinction on information that is meant for long term needs and that meant for short term. It would therefore need to be regularly updated to reflect the different time frames. In addition, the scholars explained that flexibility should enable the accounting information system to easily adjust to the changes in the internal external environment. Lastly, response was meant to determine how the accounting system responded to the demands of the users for accounting information. The system therefore should be able to store vital information and produce it when it is needed (Al-Sibaei, 2010).

2.9 Competence

According to (Athambawa, 2018), the accounting information user's competence is one of the most common factors affecting the usage of accounting information systems and its successful implementation. Yuniarshih (2008) describes competence as the capability of an individual which results in superior performance. (Noemí Pena-Miguel, 2018), referred to competencies as the knowledge and skills needed for an individual to perform

their job effectively and successfully. (Carnaghan, 2004), with regard to competencies in information systems simply explained it as the ability to use information technology software. According to (Iskandar & Setiyawati, 2015), competence relates to the underlying characteristics of an employee that consist of things like their knowledge, skills, attitude, experience and traits among other things; that enable the employee to perform their job effectively.

(Iskandar & Setiyawati, 2015), stated that competence is the determinant of employee job performance and how they think, act and endure for a period of time on the job. This notion was supported by (Fitriati, 2015), who explained that the successful application of accounting information systems relied on trained and experienced users. (Mahdavian, 2016), explained that the user is important as they translate the information from the system and shares it as knowledge for the effective running of the organization.

According to (Spencer & Spencer, 1993) competence consists of five major components and these are motive, knowledge, traits, self-concept and skill. Motive relates to the incentive that drives an individual to perform. This can be monetary and no- monetary. The needs, wants and concerns of the employees and how they are met can determine the employee's performance and motivation to work towards the organization goals. If these are not met, they may result in negative and undesirable behavior at the work place which may in turn adversely affect job performance.

Knowledge is related to what the individual knows. According to (Iskandar & Setiyawati, 2015) if an individual knows about certain things then it will be easy for them to do those things. Hence an employee that has vast knowledge about a job, its implications and theories so forth will be able to perform that job easily. They are also most likely to be successful at the job at hand and not be reluctant to undertake the tasks required of them competently. On the other hand lack of knowledge may make one fearful or unwilling to perform certain tasks.

Skills represent the capabilities of the individual in performing tasks. If a person possesses skills about something, then they already have working knowledge of it and are able to apply it. The skills or lack thereof affect the application of

those skills on tasks and the outcomes of the tasks. Superior skills therefore translate to higher probability of success on performance. (Noemí Pena-Miguel, 2018), pointed out that having the relevant and appropriate skills creates an optimum environment for technology systems to thrive, enhancing operations of the company. This was also highlighted in prior studies by (Ismail, 2009), who explained that if a manager lacks accounting information systems knowledge, then this would result in lack of alignment between the accounting system and the user requirements.

(Ahmed, 2003), pointed out that there was need for differentiation between knowledge and skills as the two terms were somewhat similar. The scholar explained that one may possess knowledge but not be able to apply it. They would therefore only possess knowledge which is the content but not possess the skill which they referred to as the know-how. (Bassellier, 2003), went further to explain that information technology competencies were divided into knowledge and experience relating to the knowledge content possessed and technical knowledge possessed as a result of interaction with the technological system; for the former and latter respectively.

The trait represents the cognitive, physical and social characteristics that are within a person. It is these characteristics that influence reactions to things. It also reflects proficiency of an individual in a certain profession. Self-concept reflects the values and attitude of the individual. They affect how the individual responds to certain situations in relation to how they regard themselves. It affects their moral and ethical behavior and their values.

(Damasiotis & Panagiotis Trivellas, 2014), explained that information and technology has had a huge impact on the collection, processing and storage of data. They pointed out that the world has become dynamic and businesses now rely on information and technology to conduct day to day tasks and this has necessitated the need for employees to be information and technologically savvy. This has also changed the competencies on performance of tasks compared to previous years. The International Federation for Accountants (IFAC, 2014) set out different roles of an accountant with relation to information technology competencies. They stated that the accountant should possess

general information technology competencies that would enable him/her to understand how the software and hardware components related and how they could be used to facilitate business transactions, understand risks and how to manage it within accounting systems and in communication.

Secondly, the IFAC (2014) explained that the accountant is supposed to have information technology control competencies. This would enable them to understand risks associated with accounting information systems, implement the necessary controls and conduct risk assessment and monitoring. The accountant was also supposed to act as an evaluator of the system, evaluating the system and giving feedback on its performance. The accountant as a designer of the accounting information system was required to evaluate the system's role in the business processes, implementing the relevant project implementation, development and management methods among others.

(Athambawa, 2018), stressed the need for training of employees in order to equip them with the relevant skills and knowledge in accounting information systems. They recommended that the management should focus on developing the human and conceptual skills of the users by investing in educational and continuous development programs. This is because with changes in the technological environment it would be vital to make sure the employees have upgraded skills and knowledge to match.

2.10 Financial Reports

Financial reports are an integral part of non-governmental organizations as they provide information tailored to the users' needs (Carolyn Cordery, 2019). They also explained that non-governmental organizations financial reports are prepared for various users and because of this there are often complications that may result in other stakeholders needs being met whilst other stakeholders' needs are not met. The diagram below highlights the characteristics of financial reports.

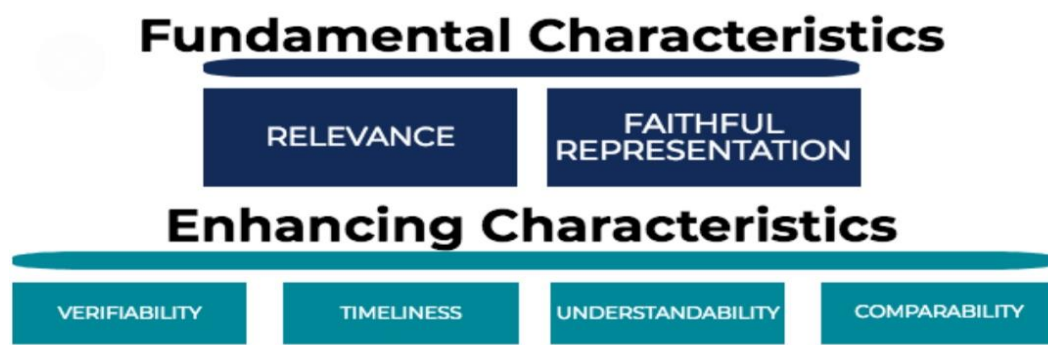


Figure 1.4: Characteristics of financial reports (Excel-PMT, 2017)

(Lewis, 2013), explained that financial reports are needed to provide records on the organization's financial activities. The scholar pointed out that in a non-governmental organization; those in financial management are accountable to the donors who provide them with funds to run the organization. They are also used by those that make them and other potential donors. Donors use the information to determine if the funds they availed are being used for what they were intended as well as to determine to review their support for that particular organization in the future.

(Lewis, 2013), explained that usually non-governmental organizations have to prepare annual reports that reflect their financial activities during the year. These include the comprehensive income statement and the statement of financial position to provide feedback and outcomes to external stakeholders. The management mainly use information contained in the relevant management accounts for their decision making. During the course of the financial year, non-governmental organizations also produce progress reports that are sent to donor agencies.

According to (Hall, 2011)), financial reports should be of high quality. This means that they have to be relevant, reliable, timely, complete and accurate to meet these standards. (Heizer & Render, 2010), explained that quality of information represents the totality of features and characteristics that make a product or service satisfactory to the end user. Quality of information is determined by several characteristics among them accuracy, accessibility, quality of representation, believability and quality of accessibility, among others (Huang, 1999).

Several authors also emphasized that information has to be useful for decision making and therefore it has to be accurate, relevant and timely (Fitriati, 2015); (Platt, 2011) (Gelinas U, 2012). It should be timely in order to provide room for management decisions to be made within the right framework without rush. It should therefore be available when it is needed. They have to be relevant to the situation so that if it is a problem, the information relates to the problem in question. If financial reports allow the user to make past evaluations and future predictions, then they are said to be relevant (Fachri & Mediaty, 2019).

In addition it should be prepared in accordance with the appropriate regulations. The use of accounting standards ensures comparability and consistency in financial reporting (Baghersefat, Zareei, Bazkia, & siavorodi, 2013). It has to be accurate in order to provide the correct picture upon which deliberation and decisions are made. Wrong information may lead to incorrect decisions (Iskandar & Setiyawati, 2015). Financial statements have to be objective and thus free from bias so that they report exactly the situation as it is. Susanto (2004) pointed out that in financial statements, the information provided should be able to be relied upon in comparison with other industries within the same organizations as well as previous experiences.

The accuracy of financial statements leads to better decision making which also leads to better profitability for the company (Gebremedihin., 2019). According to International Accounting Standards, there should be comparability between the organization's financial statements in the current period to ones in previous periods and those of other organizations within the same industry. It should also be complete so that all the relevant information is provided and all the elements highlighted. Incomplete information would not be able to provide a clear and complete picture of the situation.

It has also been shown that the quality of financial statements has a positive impact on financial accountability (Noemí Pena-Miguel, 2018)). Accountability requires being answerable for decisions made. According to (Noemí Pena-Miguel, 2018), need for transparency has increased across the globe. (Kondo, 2002) defined transparency, as the availability of reliable, accurate, clarity, complete and accurate information about activities and rules and regulations.

(Hidayah & Zarkasyi, 2017), mentioned that transparency is a reflection of quality accounting information. Non-governmental organizations accountability is to the donors that provide them with funds to engage in their activities. Accountability would therefore require them to disclose their financial statements and activities to the donors and other stakeholders.

Accountability for financial statements is determined by rules, procedures and regulations. Lack of these therefore mean accountability and transparency is reduced and the quality of financial statements is compromised as errors can go undetected and information that should have been disclosed can be omitted (Iskandar & Setiyawati, 2015)). It also means that their reliability would be in question. (Ganyam, 2019), pointed out that there are more accounting information subsystems that management use in their day to day work, depending on the size and complexity of business operations.

The International Accounting Standards Board (IASB, 2008), defined quality financial reporting as; 'that which meets the objectives and the qualitative characteristics of financial reporting.' The (IASB, A Review of the Conceptual Framework for Financial Reporting, 2013) set out a qualitative framework for measuring quality of financial reporting. It is determined by relevance, faithful representation, understand-ability and comparability. Relevance referred to the system's ability to predict accurate data that would be used for decision making. Faithful representation entailed that information listed in financial reports be accurate and free of errors and be represented faithfully (IASB, Conceptual framework for financial reporting- IFRS.org, 2010). Understand-ability was with regards to clear presentation of information in financial reports that provides assurance and transparency. Lastly, comparability meant the information from current and past periods had to be comparable with regards to similarities and differences. Therefore the same accounting policies and procedures would be used to ensure consistency (IASB, 2008). (Sacer & Oluic, 2013), reiterated that accounting information systems integrity is a pre requisite for quality accounting reports.

2.11 Non-governmental Organizations Financial Reports versus Public Companies

According to (Sultana, 2018), nongovernmental organizations do not normally follow international accounting standards though this is recommended by governments in order to enhance accountability. They are also not obligated to produce annual reports but some do as these are useful to important stakeholders like donors. Since nongovernmental organizations are not for profit organizations, there are differences in their financial reports compared to those of public companies. Costs, revenues and resources are recorded differently and this has been found to be a loophole exploited by many.

Nongovernmental organizations derive their revenues from sources like donations, government grants, endowment contributions, loan insurance, commercial banks and member contributions depending with the type of non-governmental organizations. This is different from the public companies that may have their revenue from interest and sales. In terms of expenditure, non-governmental organizations spend their funds on public and community service as well as membership development unlike a company which spends on raw materials, taxes and manufacturing costs.

In addition, since a non-governmental organization is a not-for-profit organization, they do not report profits or losses unlike a company. Non-governmental organizations report a surplus or deficit from the difference between income and expenditure, and this cannot be withdrawn. They are also exempted from tax therefore do not record surplus after tax unlike a company which reports profit or loss after taxation.

The statement of financial position for an NNGO is also different from that of a company. In an NNGO, the purpose of preparation of the statement of financial position is to determine assets on hand and their availability for future use whilst in a company these would be determined so that they are distributed to shareholders. Surplus and deficits in an NNGO are treated as accumulated funds whilst in a company they are adjusted with capital. Moreover, the difference between assets and liabilities in a non-governmental organization is regarded as net asset whilst in a company this represents the shareholders'

equity. NNGOs also have things like Departmental Capital Budgeting, compensation and debt relief, charitable expenditures, restructuring and administered provision among others that are not found in companies.

2.12 Internal Controls in Accounting Information Systems

According to (Lutui, 2018), because of the move to computerized accounting systems, there are numerous problems that arise. They explained that the use of computers has resulted in problems that are related to software, viruses, hackers and many more that make the accounting information system prone and vulnerable to attacks. This necessitates the need for internal controls. Accounting information systems contain large amounts of private and information that should be kept confidential and secure at all times. If not protected, unauthorized access to this information may result in important organizational data being stolen, deleted and manipulated. A good accounting information system is dependent upon internal controls (Sacer & Oluic, 2013). The role of internal control systems in an accounting information system is to protect this information through various methods. Some of these measures are put in place to detect any tampering with, some are placed to monitor movements of transactions, some are put as barriers that limit access to the system and some are put to protect the system from virus and external threats like natural disasters. These can range from simple protective measures like passwords to biometrics.

The accounting information system must be of good quality, reliable and secure in order to be effective. The accounting information system design has a relationship with the internal controls in that the system has to be designed to meet the specific needs of the organization. In that same vein the internal controls implemented should be aligned to the needs of the organization as well as meet the complexity of it (Susanto, 2009). They also need to be adapted to the changes in the environment as the technological environmental is constantly changing. This is why it is vital that the system be developed by those who know the organization very well like the end users. However if they are not capable then experts can be outsourced (Lutui, 2018). The Sarbanes-

Oakley Act (2002), also acts as a guide in internal control as it regularizes the implementation of internal controls in publicly traded companies.

The control environment sets the tone for the organization's attitude towards internal control in the organization therefore the responsibility for establishment of a good control environment lies with the management (Rae, Subramaniam, & Sands, 2008). A strong control environment will be governed by management who take internal controls seriously and design it in such a way that it is effectively implemented. In order to understand the threats to the accounting information system it is essential to conduct risk assessment. Risk assessment allows the organization to determine the threats and their extent. Once the threat has been determined and the controls have been implemented, the management needs to communicate these to the employees (Susanto, The Influence of Accounting Information System Quality to Accounting Information Quality and its Implications to the Good Study Program Governance, 2017)

There needs to be a good framework in place so that information also comes from the employees and they can communicate what they realize to the management without fear knowing the management would deal with the situation. The flow of communication between the management and employees therefore needs to be enhanced. This is because feedback from the users of the system helps in the designing, adjusting and strengthening of the internal controls in place. When users do their tasks, whatever loopholes or weaknesses they discover in the accounting information system are reported and the appropriate internal controls implemented. The accounting information system therefore has to ensure that feedback is not hindered within the process.

2.13 Classification of Internal Controls

Internal controls can be classified into three major categories that are preventive, detective and corrective controls. This is in line with how they are meant to deal with threats and risks. Preventive controls are put in place to prevent risks from occurring in the first place so they act as a barrier between

the system and the threat. Examples of preventive controls are passwords that are aimed at keeping intruders outside the system.

Detective controls are responsible for fishing out existing threats that may have managed to go through the preventive controls for example if a hacker has managed to go through the accounting information system (Tan, 2016); (Agyapong, 2017). The detective controls would then detect this intrusion or attempt at intrusion and send an alert that there has been a breach to the system. An example is the presence of a virus where the system sends an alert to the user that a virus has been detected in the system and the system is at risk.

The corrective measures then come into play to rectify the consequences of the intrusion or deal with it accordingly (Lutui, 2018). The virus that would have been detected would be cleaned out by the relevant system. Throughout this process the management gains insight into the strength of their internal control system and this helps them to put stronger barricades against threats. It is however; essential that the detective controls be kept up to date otherwise they may fail to do their job (Susanto, The Influence of Accounting Information System Quality to Accounting Information Quality and its Implications to the Good Study Program Governance, 2017) If a virus detector fails to detect the presence of viruses in the system then no corrective action will be implemented and the system will fall prey to the attack.

2.14 General Control Content of a Computerized Accounting System

The diagram below represents the general controls for a computerized accounting system for an organization. It is also explained that internal controls can be further divided into physical controls, segregation of duties, information systems controls, performance reviews and authorization.

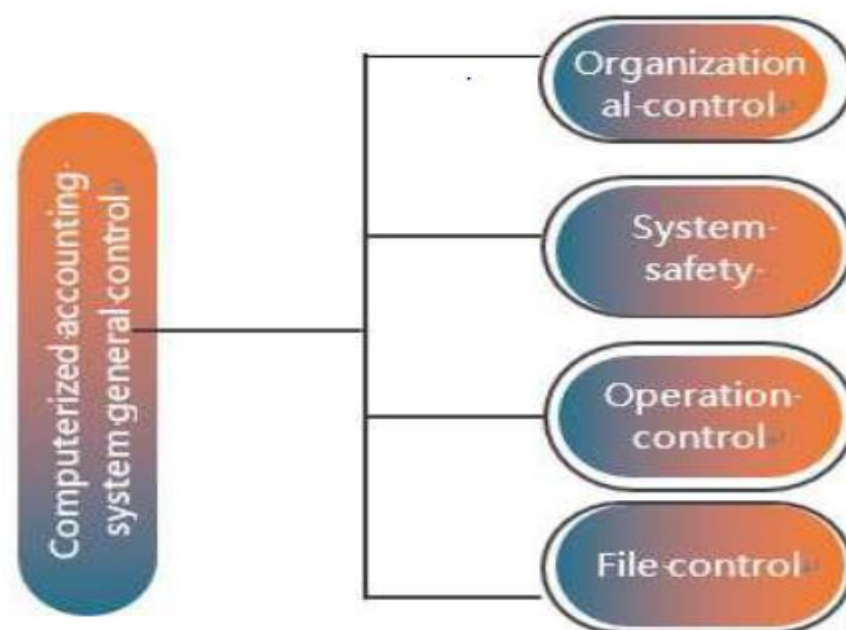


Figure 1.5 General control content of an accounting information system

Source: (Lutui, 2018).

Physical controls are those that restrict access to the computing systems. Organizations that process a lot of information also require strong physical controls to ensure that the information does not fall into the wrong hands (Agyapong, 2017). File controls would therefore ensure that there is authorization and limited access to company information and documents (Susanto, The Influence of Accounting Information System Quality to Accounting Information Quality and its Implications to the Good Study Program Governance, 2017). This also involves access to the premises. Segregation of duties is put in place to make sure that no one individual makes a series of related jobs alone (Fanxiu, 2012). This is to reduce chances for fraud and other illicit activities. An example is that an accountant can audit their own work; another independent person has to do that. When designing an accounting information system it has to be done by several information technology personnel to ensure that no loopholes that might be exploited later are created.

Information controls are responsible for the quality of the information inputs and outputs in the system (Mndzebele, 2016). They ensure that accurate, reliable and timely information is used and produced. They ensure that the

system is working properly as well as provide assurance that information is accurate and reliable. They also ensure the authorization, completeness and validity of information (Tan, 2016).

2.15 Empirical Literature

(Iskandar & Setiyawati, 2015), conducted a study in Indonesia to determine the effects of accountant competence on the quality of financial reporting. The study revealed that the accountant's competence had a positive significant impact on the quality of financial reporting. These findings were also in line with those of (Damasiotis & Panagiotis Trivellas, 2014),, who explained how lack of competence in accounting personnel had led to scandals in accounting profession. They also advocated for accountants to be equipped with the relevant and necessary information technology skills in order to be able to adjust to the constantly changing environment. The same was also echoed by (Okab & Al-Oqool, 2014)in their study on role of accountants in the accounting information systems. They pointed out that lack of information technology skills was hindering the efficient performance of accountants in preparation of financial reports.

(Dmour, 2017), analyzed reliability of accounting information systems and how quality of financial reports may mediate the relationship between accounting information systems and business performance. The study revealed that changes in business performance could be explained by accounting information systems more than they could be explained about quality of financial reporting; and that the quality of financial reporting only had a partial effect. They however also pointed out that the quality of financial reporting was important as its absence would lead to the inefficiency of operations. Therefore a reliable accounting information system would go a long way in ensuring this and boosting business performance.

(Al-Bawab, 2017), conducted a study in Jordan to analyze accounting information systems and their impact on decision making and firm performance. The study showed that accounting information system went a long way in enhancing accountability in the organization. It also contributes in

raising the quality information which ultimately leads to increased performance. Moreover, it helped their executives to conduct their tasks faster and efficiently. However, they also pointed out that there was need for further training with regards to information technology so that the employees would be more equipped to do their tasks.

These echo the results of (Gebremedihin., 2019), who assessed accounting information systems as a decision making tool in local non-governmental organizations in Ethiopia. They found a positive and significant relationship between these variables. They however pointed out that there was need for investment in the training of employees and information technology tools. (Bukunmi, Olusola, & O, 2018), also conducted an almost similar study in Nigeria evaluating if accounting information systems were a useful tool in decision making in a manufacturing firm. The study revealed that accounting information systems enhanced the process of ordering goods by decreasing costs of ordering as well as increasing resource allocation.

(Meiryani, Tsudrajat, & Daud, 2020) , examined the relevance of accounting systems in determining quality accounting information in Indonesia. The study revealed that there was lack of accounting information systems integration which in turn affected the quality of accounting information as it turned out to be inaccurate. In addition it also failed to adjust to the environment and to avail information when it was needed. The scholar thus recommended that integration of the accounting system with all the business functions is essential if the business is to fully reap the benefits of an accounting information system.

A positive and significant effect was found between accounting information system and accounting information in a study conducted by (Kanakriyah, 2017) . The scholar's study highlighted that the presence of a good quality accounting information system meant accurate reports as output and effective decision making. Their study also revealed that when an accounting information system is strong then there is decreased uncertainty and users are confident in the financial reports produced. (Sujud Hiyam, 2019), investigated the quality of accounting systems in Lebanon. They explained that the accounting information systems were characterized by reliability, relevance,

consistency and comparability. The accounting information systems were found to be unreliable as they were not up to date and did not adjust well to the developments in the environment.

(Fachri & Mediaty, 2019), assessed the impact of accounting information systems on government financial reports. They conducted a qualitative study with the use of previous literature. Their study uncovered a positive and significant impact (Beg, 2018) conducted an almost similar study in India on manufacturing companies. The linear regression analysis employed revealed a positive and significant effect on financial reports as well

2.16 Research Model

The following represents the research model for this study after the review of the literature.

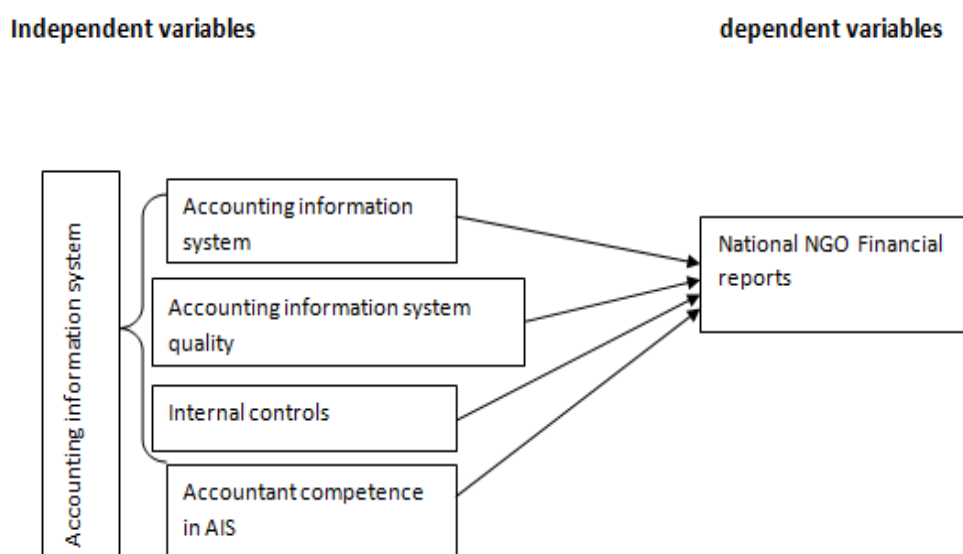


Figure 1.6: Research Model

2.17 Hypotheses

The researcher summed up the hypotheses for the study as depicted in the table below

Table 2.1: Hypotheses

Null hypothesis	Alternative hypothesis
<p><u>Hypothesis 1</u></p> <p><u>Null Hypothesis:</u> There is no relationship between the Accounting Information system and Financial reports in National NGOs.</p>	<p><u>Alternative:</u> There is a relationship between the Accounting Information system and Financial reports in National NGOs</p>
<p><u>Hypothesis 2:</u></p> <p><u>Null Hypothesis:</u> The Accounting information system quality does not affect financial reports in National NGOs.</p>	<p><u>Alternative:</u> The Accounting information system quality affects financial reports in National NGOs</p>
<p><u>Hypothesis 3:</u></p> <p><u>Null hypothesis:</u> The effectiveness of internal controls in accounting information systems do not affect the financial reports of NNGOs</p>	<p><u>Alternative:</u> The effectiveness of internal controls in accounting systems affect financial reports in NNGOs</p>
<p><u>Hypothesis 4:</u></p> <p><u>Null Hypothesis:</u> An accountants' competence in AIS does not affect in generating Financial statements in National NGOs.</p>	<p><u>Alternative:</u> An accountants' competence in AIS affects generation of Financial statements in National NGOs</p>

2.18 Summary

This chapter provided the previous studies in the form of theoretical and literature review. The researcher provided operational definitions of the variables of the study. it explained in depth the concepts of accounting

information systems, their components as well as importance. It also explained accounting information systems quality and user competence and their impact on financial reports. In addition the chapter highlighted the internal controls that form part of the accounting information systems, their role and their impact on the financial reporting. Lastly, the chapter gave lessons from other studies across the globe in the form of empirical literature and the research model based on the literature. The hypotheses that were tested were also highlighted providing the null and the alternative hypotheses. The next chapter will focus on the methodology for the study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the in-depth methods that were employed in the process of data collection for this study. The researcher explained the research design that formed the framework for the study and the research approaches employed. He also provided the target population for the study, outlining who was involved in the study and how they were selected to be part of the respondents. Data collection methods were also explained where the researcher explained the sources of the data in the study as well as explaining in detail the research instruments that were employed to collect the data. The researcher also expounded on how they adhered by ethic principles and how they ensured these were observed throughout the research process. Lastly, the researcher provided a snapshot of how the data analysis would be conducted and the tools used for the process.

3.2 Research Process

The diagram below depicts the research process followed by the researcher as depicted by (Sekaran, 2003) on how research is supposed to be conducted in a logical manner. This was supported by (Cooper, 2014) who advocated for a clear process of research.

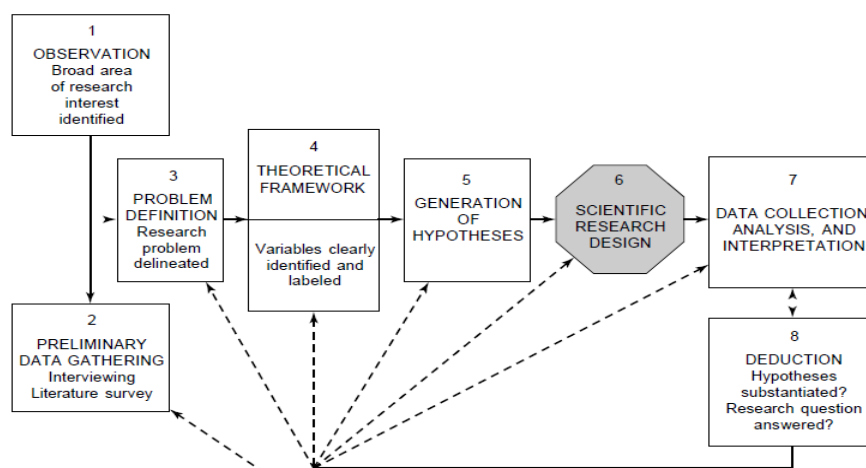


Figure 3.1: Research process (Sekaran, 2003)

3.3. Research Design

According to (Greener, 2008), the research design represents the plan of approaching the research topic. It details how the researcher will answer the research questions as well as collect and analyze the data. A good research design should be well articulated and clear (Cooper, 2014). The study is based on a descriptive as well as explanatory research design. The descriptive design attempts to highlight an accurate image of events at a particular time. It answers what and who questions and basic facts about events.

However, the researcher also sought to establish the relationship between variables and to explain it. This would point out that the study was also an explanatory design. An explanatory research design seeks to answer questions referring to why things are as they are (Neuman, 2014). The researcher combined the two methods in order to describe the situation about the accounting information systems in National non-governmental organizations and to find explanations for them which would make the study descripto-explanatory in nature.

3.4 Research Approach

The researcher will employ a deductive approach. This approach entails looking at a theories and deriving hypothesis that are tested (Greener, 2008). It also attempts to explain the relationships between variables from quantitative data (Saunders, Lewis, & Thornhill, 2009). According to (Robson, 2002), the deductive approach to research follows five steps. It starts with a hypothesis derived from a theory. This hypothesis is then operationally presented, outlining how the variables will be measured. The next step would involve testing the hypothesis then checking to see if it agrees or diverts from the theory. It would then be refined if there is need. The researcher's study follows these exact same steps which further supports that it is a deductive research. It also does not involve the researcher as part of the research process but as an independent observer without manipulating the process.

The research also employed a mixed method approach using both the quantitative and the qualitative approach. The quantitative approach is useful when there are many participants or objects under study. It is also essential when determining relationships between variables (Stockemer, 2019). The researcher would be determining the relationships between the independent and dependent variables and the quantitative method would be the most appropriate for this. The quantitative approach also provides results in numeric form which can be easy to verify or replicate hence its selection by the researcher. On the other hand, the qualitative approach provides more details and often enough fills the gaps that the quantitative approach may have missed.

The researcher chose the qualitative approach in order to determine the respondents' opinions on designing of an accounting information system for NGOs. Combined together, these methods would go a long way in shedding light on the subject of the study as well as covering more ground than if they were employed in their individual capacities. In addition, according to (Saunders, Lewis, & Thornhill, 2009) a mixed method would entail use of both quantitative and qualitative methods but with each of them being analyzed accordingly; that is quantitative data analyzed quantitatively and qualitative data analyzed qualitatively.

3.5 Research Strategy

The researcher will employ a survey to collect data from respondents. A survey allows one to collect information in a uniform manner (Stockemer, 2019). It is also a very common method associated with the descriptive and deductive approaches to research. Surveys enable the researcher to collect a large amount of information in a short time in an inexpensive way. This particular survey would also be an attitudinal survey as it collects information from respondents based on their attitudes and opinions to a set of questions.

The survey will be cross sectional in nature meaning that it would be used to derive data from individuals at one point in time. The results would then reflect the opinions of respondents towards an event at that particular point in time.

The researcher will then make inferences between the variables involved in the study. The survey strategy was chosen mainly because it would enable collection of quantitative data in an economical and convenient manner. In addition surveys make information easy to understand to the respondent, eliminating probabilities of errors (Saunders, Lewis, & Thornhill, 2009)

3.6 Population and Sample

According to (Gill & Johnson, 2002) it is not possible for one to collect data from every member of the population. Because of this researchers just choose a number of people from whom they will collect the data and then generalize and extrapolate their findings on the population. This selected number of people that will be a representation of the population is referred to as the sample. According to the scholars, if a sample is taken properly then the results can accurately predict behavior over the whole population but in an inexpensive way. The targeted population for the study was national nongovernmental organizations in Northern Iraq in the city of Duhok. The city is home to 99 local and international nongovernmental organizations and agencies. However the researcher only focused on 29 as these are national nongovernmental organizations that he was targeting.

The following table represents the nongovernmental organizations in Duhok City that were chosen for this study.

Table 3.1: Sample representatives in Duhok city

NNGO	NNGO	NNGO
Duhok Institute of General Culture	Social Education Economic Development Foundation	Gashbon
HARIKAR	Free Yazidi Foundation	Baghdad Women Association
Sewan Women	ASUDA	Christian Aid Program Nohadra

Women Rehabilitation Organization	Tajdid	Hevedan
Zakho small village project	Rwanga	Women's Empowerment for peace building
PDO	Shingal Organization for social Development SOSD	Barzani charity foundation
EMMA	Bishkoreen	Lotus flower
ASFL	Better World Organization	Women for better health
Yazda	DAK	
Jiyan Foundation	Voice of older organization	

A sample of 70 participants was chosen to represent the population with 50 responding through the survey and 20 through the interviews. The 50 survey respondents were personnel from different governorates in the National Nongovernmental organizations. The 20 interviewees were accountants working in active nongovernmental organizations that have implemented projects as partners with international organizations and the United Nations agencies. Some interviews were done face to face but because of the COVID 19 pandemic online platforms Zoom and Skype were also used to conduct the one-on-one interviews.

The participants of the study were chosen using the simple random sampling method. The simple random sampling method allows the participants' equal opportunity of being selected for the study hence its selection as the method of choice for sampling by the researcher.

3.7 Data Collection

The study was based on primary and secondary data. Primary data is that data which is obtained from the source for the first time. In contrast, secondary data

is that which is already in existence and was collected for another prior purpose. The researcher collected primary data straight from the respondents by way of surveys and interviews. The advantage of primary data is that it is tailor made for the specific purpose of the study and hence is more appropriate for it. Secondary data was obtained from a wide range of literature sources that included books, academic journals, articles and internet sources. The bulk of the sources were made up of academic journals for the sole reason that these are subject to peer reviews from panels and are thus verified and more reliable sources of information. They are also more recent compared to information that can be found in sources like textbooks which can be outdated.

3.8 Research Instruments

The research instrument is the tool used by the researcher to extract the data from its sources. The researcher employed the questionnaire and the interview for this study.

3.8.1 Questionnaire

A questionnaire is a compilation of questions that are meant to be answered by the respondent. These can be open or close ended questions and structured or unstructured or a combination of both. The researcher employed a structured questionnaire. This was meant to ensure that the context of the matter is not lost and standardized questions are also easier when it comes to data analysis. Unstructured and close ended questionnaires offer more freedom to respondents and may sometimes lead to respondents going astray from the subject matter hence the researcher tried to avoid this by making the questionnaire structured and with close ended questions.

The questionnaire consisted of six sections. The first section focused on the demographic characteristics of the respondent where the researcher sought information like gender, age and computer literacy among others. The remaining sections were all relating to the variables of the study. These were based on the dimensions of accounting information systems. The second section focused on the usage of accounting information systems where the

researcher sought to determine the respondents' opinion on the benefits of using the accounting information system. The next section was on the accounting information system quality where the researcher assessed the quality of the information system in the respondents' organizations and how reliable they were. The fourth section of the questionnaire was focused on internal controls where the researcher assessed the strength of the accounting information systems internal controls in the NNGOs. The fifth section was dedicated to evaluation of the user competence which referred to the accountants and related personnel competence with accounting information systems. The last section was focused on the assessment of financial reports of the NNGOs and their characteristics. All the questions made up a total of 40 questions.

The researcher conducted a pilot study before the actual study took place. A pilot study is recommended to ensure that the researcher and the respondents are on the same page with regards to the subject in question. It will be inconvenient for the researcher to realize that respondents misinterpreted certain statements in the questionnaire when the study is already underway. The pilot study therefore provides the researcher with the chance to make necessary alterations to the questionnaire and to ensure that respondents understand the questions asked (Stockemer, 2019). The researcher conducted a pilot study on 10 respondents and made necessary adjustments before distributing the questionnaires in the actual study.

3.8.2 Interviews

The researcher conducted semi structured interviews. According to (Saunders, Lewis, & Thornhill, 2009) semi structured interviews consist of a list of questions but these may not be read out in the order they are written. The questions asked would depend on the nature and context of the organization and some may be left out. They also pointed out that the nature of such interviews is such that audio may be recorded. (Saunders, Lewis, & Thornhill, 2009) also explained that semi structured interviews are ideal for

understanding the why of a situation in greater detail and usually entail face to face, telephone or any electronic based interview.

The interviews were of the face to face variety. Some of them were conducted physically face to face whilst some were conducted through the Zoom and Skype online face to face platforms. The researcher sought to determine various things like usefulness of accounting information systems, challenges encountered and the interviewees' opinions on the capability of their respective organizations in designing accounting information systems. They also attempted to uncover what could be included in the design of NNGOs AIS. The interview also gave room to the interviewee to add any other comments they may have pertaining to the subject.

Semi structured interviews enable the researcher to delve deeper into the subject. They also provide room for expansion on the themes whereby the participants may actually reveal other things that may be important to the research question and objectives that may otherwise have been overlooked in a standardized interview. This therefore results in a deeper and richer content hence the selection of this method by the researcher.

3.9 Measurement

For the variables of the study to be operational they need to be measured. Scales are employed to do this as they differentiate variables. The nominal scale was employed for the demographic characteristics as it categorizes individual aspects into groups. The researcher employed the interval scale for measurement of the variables of the study. The Likert scale is an attitudinal scale that measures individual attitudes to statements on a range that may be three, five or seven point. He used the Five point Likert scale for this. The scale was chosen as it provides somewhat of a balance without being too ambiguous or failing to capture the range of responses. The interval scales are also ideal in providing differences between the preferences in such a way that they can be quantitatively measured which is appropriate for this study which is quantitative in nature.

3.10 Data Analysis

The data will be analyzed using the Statistics Package for Social Sciences (SPSS) software. Various tools on the software would be used to analyze different phenomenon. The questionnaire will be checked for reliability through the Cronbach Alpha. Reliability in research is essential in determining consistency, checking to establish whether the study can give the same results when conducted another time and if other scholars can find the same results. This ensures that results can be replicated and provides confidences that the research instrument can be relied upon to measure the same phenomenon and that the results obtained are authentic (Greener, 2008). Descriptive statistics would be provided through frequencies and cross tabulations. Relationships between variables and their nature would be established through correlation analysis and regression analysis.

3.11 Ethical Consideration

In every research it is imperative that ethical considerations be observed. According to (Saunders, Lewis, & Thornhill, 2009) research ethics refer to 'questions about how we formulate and clarify our research topic, design our research and gain access, collect data, process and store our data, analyze data and write up our research findings in a moral and responsible way.' The researcher followed the deontological view and made efforts to ensure compliance to ethical codes and that there was no deception whatsoever involved in the study. Permissions were sought were they were required. The researcher sought permission from the ethics board of his institution, the Near East University Ethics Committee. Upon obtaining their permission he then initiated the study. In addition, permission was also sought from the national nongovernmental organizations from which the researcher desired to undertake their study.

Thirdly, the researcher sought the informed consent of the participants. According to (Saunders, Lewis, & Thornhill, 2009) informed consent involves full disclosure of information pertaining to the study and its use; upon which the respondent freely and willingly gives their permission. No pressure or

coercion was used and the researcher graciously accepted the decisions of those who did not want to participate in the study. A participant information sheet was provided to the participants. This explained in greater detail the purpose of the study, what would be required of the participant and how their information would be used and reported. The information sheet also outlined implications of the study and contact details in case of any questions and queries.

(Bryan & Bell, 2011) also raised the issue of data management and pointed out that there are issues surrounding digital data and how it is used. The scholar also explained that researchers may end up using data for another purpose other than the one they had said they will use it for. As a result the scholars advocated for explicit disclosure of how the respondents' data will be used. In accordance with this, the researcher fully disclosed this information to the respondents and participants of the study.

It also addressed how the researcher would ensure and protect the privacy of the respondents and how their information would be kept confidential. The respondents were also informed that their participation was voluntary and they were free to leave the survey or interview at any given point if they no longer wished to be part of the study. A consent form was also provided with a brief background into the study and also where the respondents would sign to indicate that they had provided their consent to be part of the study and agreed to what was required of them.

3.12 Summary

The chapter focused on the methodology of the study. The study employed a descriptive- explanatory perspective that was deductive in nature. The study was based on a mixed approach to ensure depth to the issue of accounting systems in NNGOs. The data collection was done through primary and secondary methods. Questionnaires and interviews were the research instruments utilized in the study. Respondents were advised of the purpose of the study and their part in the study through the participant information sheet. The sample consisted of 70 NNGOs employees, 20 of whom were for the

interviews and the rest were for the survey. The Five point Likert scale was used for the measurement of the variables. Data analysis will be done using the SPSS software where descriptive statistics, correlations and regressions will be used to examine existence of relationships between variables.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter focuses on the analysis of the data that was collected from the respondents for the study. The analysis consists of a quantitative analysis for the questionnaire and qualitative analysis for the interviews. On the quantitative aspect, the researcher conducted descriptive statistics using the mean function to determine the frequency of responses. Demographic characteristics were also included to determine the characteristics of the respondents. The researcher also conducted correlation and regression analyses to determine strength and direction of the relationships between the variables. The researcher conducted a thematic analysis on the qualitative side. This analysis drew patterns and similar themes in the participants' responses given through the one-to-one interview and the group meeting.

4.2 Realization Rate

The table below reflects the details with regards to the research instrument distribution. The researcher distributed 50 questionnaires to the respondents and all 50 were returned. All the questionnaires were answered correctly and there were no spoilt questionnaires. The researcher thus rejected none and used all the 50 questionnaires for the purpose of the study. The case processing was thus 100%.

Table 4.1: Case processing summary

Questionnaires distributed	50
Questionnaires not returned	0
Questionnaires spoilt or rejected	0
Total questionnaires realized	50

4.3 Reliability Statistics

A research instrument has to be relied upon to measure what it is intended to. In order to do this a Cronbach Alpha is run and according to statisticians a high Cronbach value; preferably in the range 0.75-0.95 means that the items employed and the research instrument are reliable as a measurement tool. All the items employed by the researcher fell into this range and therefore the research instrument was reliable. The items employed can be used and depended upon to give authentic results.

Table 4.2: Reliability Statistics AIS usage

Cronbach's Alpha	N of Items
.953	6

Accounting information system usage was measured using 6 items on a Likert scale. These produced a Cronbach alpha value of 0.953. This means that the items used were reliable as a measurement tool.

Table 4.3: Reliability statistics quality

Cronbach's Alpha	N of Items
.803	5

The table above reflects that there were 5 items used to measure accounting information system quality variable. The table also shows a Cronbach Alpha value of 0.803 which means that the items used were reliable.

Table 4.4: Reliability internal control

Cronbach's Alpha	N of Items
.903	6

Six items were used to measure the internal control variable. These can be trusted as a measuring tool as reflected by the high Cronbach Alpha rate of 0.903

Table 4.5: Reliability user competence

Cronbach's Alpha	N of Items
.943	6

User competence was measured using 6 items and these produced a Cronbach alpha value of 0.943. It can thus be concluded that the items selected were reliable.

Table 4.6: Reliability financial reporting

Cronbach's Alpha	N of Items
.926	9

A Cronbach alpha value of 0.926 was found for financial reporting. This means that the 9 items employed to measure it were reliable.

4.4 Demography Analysis

The researcher sought to establish the demographic characteristics of the respondents. He determined the gender, age, educational background, computer proficiency and their familiarity with accounting information systems. These are shown in the tables below.

Table 4.7: Gender

		Frequency	Percent	Valid percent	Cumulative Percent
Valid	male	32	64.0	64.0	64.0
	female	18	36.0	36.0	100.0

Total	50	100.0	100.0
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The respondents consisted of more males than females, almost as twice as the females. There were 32 males which consisted of 64% of the population compared to 36% of the females. The gender differences may also be a reflection of the distribution of the male and female in the accounting sector in the national nongovernmental organizations in Duhok.

Table 4.8: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-28	7	14.0	14.0	14.0
	29-34	21	42.0	42.0	56.0
	35-40	17	34.0	34.0	90.0
	40+	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

The researcher established the age distribution of the respondents from the age of 18 up to above 40 years. Most of the respondents were aged 29-34, constituting 42% of the population. This was followed by the 35-40 age groups which constituted 34% of the population. The 18-28 age groups made up 14% of the population and the 40 and above were the least with only 10%. The employees in the nongovernmental organizations are mostly in the productive age group. More than half of the employees were in the age groups 29-40.

Table 4.9: Department

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	accounting/finance	37	74.0	74.0	74.0
	procurement/logistics	9	18.0	18.0	92.0
	management	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

The researcher collected data from personnel from the accounting and finance department, the procurement or logistics department and from the management as these were deemed to be knowledgeable about accounting information systems. The majority of the respondents were naturally from the accounting and finance department as depicted by the number 37 which translated to 74% of the total respondents. This was followed by the procurement and logistics personnel department which constituted 18%. Lastly, only a handful of the management was part of the participants. They were only four making up 8% of the population.

Table 4.10: Familiarity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	familiar	29	58.0	58.0	58.0
	Somewhat familiar	13	26.0	26.0	84.0
	unfamiliar	8	16.0	16.0	100.0
	Total	50	100.0	100.0	

The respondents were asked if they were familiar with accounting information systems. The table shows that slightly more than half (28 respondents) of the respondents were familiar with AIS, constituting 56% of the population. This was followed by respondents who were somewhat familiar with AIS and these were 13 making up for 26% of the total. Only 8 respondents indicated that they were unfamiliar with AIS and they made up 16% of the total respondents. The majority of respondents were familiar with accounting information systems.

Table 4.11: Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diploma	5	10.0	10.0	10.0
	bachelor's	38	76.0	76.0	86.0
	masters	7	14.0	14.0	100.0
	Total	50	100.0	100.0	

The researcher assessed the education level of the respondents and asked them to indicate their highest level of education from diploma level to postgraduate. The table indicates that the majority of the respondents have a Bachelor's degree as their highest qualification. This is reflected in the 38 respondents that made up 76% of the total percentage. This was followed by those that had a Master's degree and they were 7, making up 14%. The least qualified of the personnel with a diploma as their highest qualification were 5 making up 10% of the population. There were no personnel with a postgraduate qualification. The nongovernmental organizations have an educated workforce consisting of graduates.

Table 4.12: Computer skills

Detail		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	average	6	12.0	12.0	12.0
	good	23	46.0	46.0	58.0
	Very good	19	38.0	38.0	96.0
	poor	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

The table above reflects the proficiency of the respondents in computers. It indicates that most of the respondents were competent in using computers. Almost half of the respondents indicated that they were good with computers

making up 46% of the total and 19 respondents indicated they were very good making up 38% of the total. Only 2 people responded that their computer skills were poor, contributing 4% and 6 people had average computer skills, making up 12%. The majority of the respondents (84%) have above average computer skills.

Table 4.13: Type of AIS

Detail		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ERP	3	6.0	6.0	6.0
	Andalos	3	6.0	6.0	12.0
	Quickbooks	13	26.0	26.0	38.0
	Excel	23	46.0	46.0	84.0
	other	8	16.0	16.0	100.0
	Total	50	100.0	100.0	

The table above reflects the type of accounting information system software that the users were most familiar with in their work. This was a choice between ERP, Andalos, Excel, Quickbooks and any others. The ERP and the Andalos were the least used with 3 users each and contributing 6% each. Some respondents used other accounting softwares other than the ones mentioned and these constituted 16% of the total. Quickbooks users were 13 making up 26% of the total. The largest number of users, 23, was most familiar with Excel and these constituted almost half of the total at 46%.

4.5 Descriptive Statistics

The researcher ran some descriptive statistics for the variables to determine the level of opinion to the statements given through the mean function. The results are presented below.

Table 4.14: Descriptive Statistics Accounting information systems usage

Detail	N	Mean	Std. Deviation
Using the accounting system improves the speed of the accounting process in NGOs	50	4.4600	.64555
using the accounting system improves the efficiency and accuracy of the accounting transactions in NGOs	50	4.4600	.61312
Using the accounting system improves the flexibility and trustworthiness of accounting in NGOs	50	4.4000	.67006
Using the accounting system increases the security of accounting in NGOs	50	4.3400	.74533
Accounting Information System increases the reliability of information produced	50	4.3800	.69664
AIS improves the quality of accounting information which in turn enhance decision making.	50	4.2000	.83299
Valid N (listwise)	50		

The table above reflects the respondents' opinions on the usage of AIS in their organization. The respondents strongly agreed that using the accounting information systems improved the speed of their accounting processes in their organizations. This is reflected in the mean of 4.46. The respondents also strongly agreed that using the AIS improved efficiency and accuracy of accounting transactions as shown by the high mean value of 4.46. The table also reflects that the majority of respondents were in strong agreement to the opinion that accounting system improved the flexibility and trustworthiness of accounting in NGOs as shown by the mean value of 4.40. The respondents also strongly agreed that the AIS increased the security of accounting and increased the reliability of information produced as reflected in the mean values of 4.34 and 4.38 respectively. It is also reflected in the table that

respondents strongly supported that accounting information systems improved the quality of accounting information which is used in decision making. Overall, the respondents indicated that using accounting information system greatly increased their performance at the workplace.

Table 4.15: Descriptive Statistics Accounting Information Systems Quality

Detail	N	Mean	Std. Deviation
Our AIS network system and components are well maintained and serviced in time	50	3.4400	.90711
Our accounting information system is characterized by high speed in processing and retrieving information	50	3.8000	.96890
Reports generated with an accounting information system have more comprehensive content than those from the manual system	50	4.0800	.92229
Reports generated with an accounting information system have more comprehensive content than those from the manual system	50	3.9400	.84298
The use of accounting information systems leads to consistency in accounting methods	50	3.8200	1.00387
Valid N (listwise)	50		

The researcher tried ascertained the respondents' opinions with regards to the quality of their accounting information systems and their impact on the financial reporting. The table reveals that the respondents moderately agreed that their accounting information system network and equipment is regularly serviced and maintained in time as shown by the mean value of 3.44. They also moderately agreed that their accounting information system was characterized by high speeds of processing and retrieving information as reflected in the mean value of 3.8. The respondents also strongly agreed to

the opinion that accounting information systems have more detailed content compared to the manual systems shown by the high mean value of 4.08. They also responded that the use of accounting information systems leads to consistency in accounting methods.

Table 4.16: Descriptive Statistics internal control

Detail	N	Mean	Std. Deviation
I believe access to data is properly authorized, controlled and is safe from third parties	50	3.6000	.78246
Our organization has policies, procedures, organizational designs, and physical barriers that contribute to the control structure	50	3.4200	.90554
The organization routinely fixes bugs and ensures records are safe at all times	50	3.3000	1.09265
There is proper monitoring on electronic devices in my workplace	50	3.3000	1.09265
Our organization have proper detective controls, which are designed to identify errors or irregularities after they have occurred	50	3.1600	1.18425
Personnel are properly trained and can detect phishing attempts	50	3.1400	1.08816
Valid N (listwise)	50		

The table shows that the respondents moderately agreed that they believe access to data is properly authorized, controlled, and is safe from third parties as shown by the mean value of 3.60. The respondents agreed to the notion that their organization has policies, procedures, organizational designs, and physical barriers that contribute to the control structure as evidenced by the mean value of 3.42. According to the results the respondents somewhat

agreed that the organization routinely fixes bugs and ensures records are safe at all times; and that there is proper monitoring on electronic devices in my workplace from the mean value of 3.30 for both. However, from the mean value of 3.16 they only slightly agreed that their organization have proper detective controls, which are designed to identify errors or irregularities after they have occurred. The same can also be said for their level of training as the respondents slightly agreed that the personnel are properly trained and can detect phishing attempts.

Table 4.17: User competence

Detail	N	Mean	Std. Deviation
Our management provides quality training, continuous professional development and services in AIS	50	3.000	1.010150
Our personnel possess sufficient knowledge in and are familiar with the accounting information system and its related processes	50	3.080	.986440
Our personnel are sufficiently qualified to handle accounting information systems	50	3.080	.986440
Our personnel possess sufficient information technology skills to use accounting systems	50	3.000	1.106570
Our personnel are highly professional and maintain a high standard of professionalism	50	3.260	.921620
The management offer a high level of support to personnel in dealing with accounting information systems and reporting	50	3.300	1.129380
Valid N (listwise)	50		

The respondents were asked to give their opinions with regards to the competence of the workforce with regards to accounting information systems. The table shows that the respondents showed indifference to the opinion that their management provides quality training, continuous professional

development and services in AIS. They remained neutral on that opinion as reflected in the mean value of 3.00. The respondents agreed but slightly that personnel possessed sufficient knowledge in and are familiar with the accounting information system and its related processes as shown by the 3.08 mean. Similar results were also obtained to the statement that said personnel are sufficiently qualified to handle accounting information systems. According to the results the respondents were neutral and neither agreed nor disagreed to the opinion that personnel possessed sufficient information technology skills to use accounting systems as shown by the mean of 3.00. However, they moderately agreed that their personnel are highly professional and maintain a high standard of professionalism as depicted by the mean of 3.26. The mean value of 3.30 also shows that the respondents moderately agreed that their management offer a high level of support to personnel in dealing with accounting information systems and reporting.

Table 4.18: Financial Reporting Descriptive Statistics

Detail	N	Mean	Std. Deviation
The organization's financial reports are inclusive of all the financial aspects that users need in the decision-making process	50	3.4400	.95105
Financial reports are judiciously prepared to ensure accuracy and correctness	50	3.5200	.86284
The financial reports are provided in appropriate time so they reach the decision maker before losing their ability to influence the decision taken	50	3.5200	.99468
The company's financial reports are adopted in the same way in comparison with other NNGOs	50	3.3200	1.01900

The provided financial reports are consistent with the user's needs in different financial periods per year	50	3.5200	.97395
The financial reports extensively disclose information on corporate governance issues	50	3.5000	.95298
The results of the current accounting period are comparable to those of the previous accounting periods	50	3.6200	.94524
The financial reports highlight positive and negative events in a balanced way when reporting the annual results	50	3.6000	.80812
The financial reports explain the choice of accounting clearly	50	3.8000	.90351
Valid N (listwise)	50		

The table above reflects the respondents' opinions with regards to financial reporting in relation to accounting information systems in their organization. The mean value of 3.44, shows that the respondents moderately agreed that their organization's financial reports are inclusive of all the financial aspects that users need in the decision-making process. They also moderately agreed that their financial reports are judiciously prepared to ensure accuracy and correctness as shown by the mean of 3.52. Similar results of 3.52 mean were also obtained where the respondents moderately agreed that the financial reports are provided in appropriate time so they reach the decision maker before losing their ability to influence the decision taken.

In addition, from the mean value of 3.32 it can be interpreted that the respondents agreed that their company's financial reports are adopted in the same way in comparison with other NNGOs. To the opinion that the provided financial reports are consistent with the user's needs in different financial periods per year, the respondents moderately agreed as reflected in the mean value of 3.52. They also moderately agreed that the financial reports extensively disclose information on corporate governance issues, shown in the

mean of 3.50. Furthermore, the respondents moderately agreed that the results of the current accounting period were comparable to those of the previous accounting periods as shown by the mean of 3.62. It can also be seen from the mean value of 3.60 that the respondents moderately agreed that the financial reports highlight positive and negative events in a balanced way when reporting the annual results. Lastly, the respondents agreed that the financial reports explain the choice of accounting clearly, as reflected in the mean value of 3.80.

4.6 Correlation Analysis

The following represents the results of the correlation tests done to test the relationship between variables.

Table 4.19:
Correlations

Detail		AIS	AIS	InternalUser	Financial	
		usage	quality	control	competence	reporting
AIS usage	Pearson	1	.404**	.015	.125	.160
	Correlation					
	Sig. (2-tailed)		.004	.919	.388	.266
	N	50	50	50	50	50
AIS quality	Pearson	.404**	1	.615**	.395**	.405**
	Correlation					
	Sig. (2-tailed)	.004		.000	.004	.004
	N	50	50	50	50	50
Internal control	Pearson	.015	.615**	1	.689**	.640**
	Correlation					
	Sig. (2-tailed)	.919	.000		.000	.000
	N	50	50	50	50	50

User competence	Pearson	.125	.395**	.689**	1	.723**
	Correlation					
	Sig. (2-tailed)	(2-.388	.004	.000		.000
	N	50	50	50	50	50
Financial reporting	Pearson	.160	.405**	.640**	.723**	1
	Correlation					
	Sig. (2-tailed)	(2-.266	.004	.000	.000	
	N	50	50	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

The researcher conducted correlation analysis to determine the extent of association between the variables. Correlation analysis is used to establish how strong the relationship is between the variables and the strength is significant. A high correlation would mean a stronger relationship and a lower value means a weaker relationship between the variables. The table shows that accounting information system usage has a positive association with financial reporting as shown by the figure 0.16 which means a 16% positive association. The table also shows that there is a positive and significant relationship between financial reporting and accounting information systems quality of 40.5%. A strong, positive and significant relationship was also found between accounting information systems internal controls and financial reporting. This association was found to be 64%. A 72.3% association was found between accounting information system user competence and financial reporting. This signifies a strong, positive and significant relationship between the variables. Overall, a positive and significant relationship was found between accounting information systems and financial reporting.

4.7 Model Summary

The following table shows the fitness of the model for the study.

Table 4.20: Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.755 ^a	.570	.532	4.57386
a. Predictors:				
(Constant), user				
competence, AIS				
usage, AIS quality, Internal				
control				

The table above shows the overall fit of the model to measure the relationship between the variables. The R value of .755 represents a 75.5% correlation between the dependent and independent variables. The R square however, shows the extent to which the dependent variable can be explained by the independent variable; in this case the extent to which financial reporting can be explained by user competence, accounting information systems quality, accounting information systems usage and internal controls. Financial reporting can thus be predicted by the independent variables by 57%. The adjusted R square simply gives a more accurate figure for this relationship after eliminating the possibility of an increase in value as a result of an increase in addition of predictors and this is a 53.2%.

4.8 Analysis Of Variance

The following table depicts the results of the analysis of variance that was conducted to test significance of the relationship between the independent and dependent variables.

Table 4.30:
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1247.313	4	311.82	14.90	.000 ^b
	Residual	941.407	45	20.920		
	Total	2188.720	49			

a. Dependent Variable: Financial reporting

b. Predictors: AIS (Constant), user usage, AIS quality, competence, Internal control

The Analysis of Variance (ANOVA) serves to confirm or answer if the independent variables reliably predict the dependent variable. The table above shows that the p value associated with the F value is very small (0.000). When compared to the alpha level that is typically 0.05, the p value is smaller and thus it can be established that accounting information system variables (usage, internal control, and quality and user competence) statistically and significantly predict financial reporting. The null hypotheses were thus all rejected. The ability of each of the variables to predict the dependent variable, financial reporting is found in the table below.

4.9 Coefficients

The table below shows the coefficients for the variables showing the statistics for each variable.

Table 4.31 Coefficients

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	
1	(Constant)	8.350	5.203	1.605	.116

AIS usage	.178	.203	.101	.875	.386
AIS quality	-.044	.278	-.023	-.156	.876
Internal control	.393	.223	.299	1.759	.085
User competence	.633	.170	.514	3.720	.001

a. Dependent

Variable: Financi
al reporting

The table above shows how each independent variable is statistically associated with the dependent variable. It also shows the effect of an increase in the independent variable on the dependent. The table shows that an increase in accounting information system usage by 1 unit would result in an increase in the financial reporting of the organization by 0.178 units. A unit decrease in accounting information systems quality would result in a decrease in financial reporting by 0.044 units. However, the figure is close to 0.05 thus it is statistically insignificant. An increase in internal control by 1 unit would result in an increase in financial reporting by 0.393 units. In addition, for every unit increase in user competence in accounting information systems, a 0.633 increase in financial reporting is predicted. From looking at the standardized beta coefficients, it can be determined that user competence in accounting information systems would have the most effect on the financial reporting as shown by the figure of 0.514 followed by internal controls.

4.10 Interviews

The researcher conducted individual and group interviews with employees from different NNGOs and the findings are shown below.

4.10.1 Group interview

The researcher conducted a group meeting with personnel via the Zoom platform as he was having difficulties securing one to one interview with them because of the coronavirus pandemic. The interview was done with 9 people

from the Finance and Management department and the results below were found.

1. In what way have accounting information systems been useful to your organization's financial reports?

Having accounting information systems has been very useful for my organization because we can track transactions, monitor the progress, and it has a direct effect on the financial report that support the decision making.

Accounting information systems are important for all organizations and corporations because of its impact on the finance process.

The participants explained that having accounting information systems had helped them with making it easy to check and monitor their financial activities compared to when they were still using the manual system. They could easily check transaction by the click of a button and did not have to go through the tedious process of searching through manual files. They could easily check many transactions. They also pointed out that the process of preparation of financial reports had been made easier and more efficient and was now taking less time.

2. Have you encountered any challenges with accounting information systems? If yes, please explain in detail about the challenges

- *Lack of adequate knowledge of staff in this field and hiring personnel that are not finance and accounting department graduates. When this happens, it affects the quality of accounting information systems work.*
- *Not understanding the foreign languages like English and Arabic which affects the employees in exploring the systems to use its maximum potential as most of the accounting information systems use English interface as its language.*
- *Fast technology development*
- *AIS are usually very costly for NNGOs*

The participants explained that they were encountering several challenges with the use of accounting systems. Some explained that there was a lack of adequately trained manpower that could effectively use accounting information

systems. Another participant mentioned that there was a shortage of accounting and finance personnel that were suitably qualified and in the end in some cases people from different backgrounds are employed to take up these positions. They have a hard time grasping some of the concepts and fail to handle the accounting information systems which ultimately affect the quality of the financial reports produced.

Other participants also raised the issue of language as an impediment to effective usage of accounting information systems. They explained that some of these systems are in foreign languages like English and because it is not their mother tongue and, in some cases, not even their second language, they struggle with the translations and interpretations.

Another participant raised the issue of fast technology development as a challenge to use of accounting information systems. They explained that technology is developing at a fast pace such that sometimes they cannot keep up with all the developments. New systems and software are always coming up; whilst they are still in the process of mastering old versions. In some cases, their skills become obsolete and have to be upgraded.

This brought another issue of the accounting information systems being very costly for national nongovernmental organizations. The participants explained that the ever-changing technology also means that the organizations have to constantly upgrade their skills which become very expensive for the organizations. Another participant explained that it is also expensive to have good accounting information set up and the costs are daunting especially for a company that is a not-for-profit organization.

3. What would you suggest be done to overcome these challenges?
 - *Designing accounting information systems to have a local language interface*
 - *Hiring accountants for finance departments*
 - *Getting approvals from the donors to cover the costs of AIS*

In light of the challenges encountered with the use of the AIS, the participants were asked for their opinions pertaining to suggestions on how these could be addressed. The participants explained that it would go a long way to solve the language difficulties if the information systems were designed with a local language interface. A local language would mean that no meaning is lost in the translations and the instructions and manuals are correctly interpreted and all can easily use them. Another participant also suggested that strictly accountants be hired for the finance departments and if possible, it was better to outsource the skills needed. Participants also explained that it could be helpful if the donors were asked to cover costs of accounting information systems in order to ease that financial burden on the NNGOs.

4. In your opinion, is having an international standard of accounting information system in an NNGO important? Why?

It is important because;

- *Saves time*
- *More transparent*
- *Reports are easily understandable by donors*

The participants agreed that an accounting information system of international standards would be of benefit to their organization. They explained that this would enhance transparency within the organization as the reports produced would be easily comparable with the others NGOs. This would also save them time with regards to doing the comparisons within and out of the organization. There would also be set standards of disclosure they would need to follow and adhere to and this would make sure that their activities are open to scrutiny and there would thus be fewer chances of illicit or unethical practices within the organization. Participants also explained that since some of the donors are foreign and from countries that follow regulated accounting information system standards, they would easily understand the financial reports produced by the organization.

5. How has lack of a standardized accounting information system affected your relationship as an organization with your donors?

- *Donors required manual reports from partners using Excel program*
- *Donors asking which AIS systems the organization uses and what are the policies of financial processing. This usually affects the relations between donors and partners because some partners are not accepting manual systems*

The participants explained that the lack of standardized accounting systems created tensions between the donors and partners. Some organizations are still mainly using manual systems and since some of the partners do not accept these, it becomes difficult for the organization and creates unnecessary suspicion with regards to the use of funds. The participants explained that in some cases the donors would want detailed information pertaining to the type of accounting information system the organization uses and policies for financial processing.

6. Do you think your organization have the capacity/ability to design an accounting information system according to international standards?
- *Seven of the participated organizations mentioned that they don't have the capacity, knowledge, and ability to design an AIS system*
 - *Two of the participated organizations mentioned that they have the capacity to design AIS systems according to the international standards*

The researcher sought to determine if the participants thought their organizations were capable of designing accounting information systems. The majority of them, seven, explained that they did not possess the capacity to do so. They also explained that they were not even able to do so as they lacked the experience and the skills to undertake such a project. They also pointed out that they lacked the know-how thus they would not be able to design an AIS according to international standards. Only two of the participants responded that they were capable of designing AIS according to international standards.

7. What do you think is hindering your organization from designing an accounting information system according to international standards?

- *Six of the participated organizations highlighted the budgeting and capacity reasons*
- *One of the organizations strictly said that the capacity is the reason.*
- *Two of the participated organizations had no obstacles and they could create one according to international standards*

The researcher sought to find out since all the participants agreed that an international standardized accounting system is crucial; but the majority had said they lacked the ability to design one, what was stopping them from doing so at organizational level. Six of the participants explained that budgetary and capacity reasons were their greatest challenges. The participants explained that they worked under constrained budgets and undertaking a project of such nature would definitely be too expensive for them. Another explained that they would have to end up outsourcing the labor because they did not believe they had the adequate skills to do it. Only the two participants who had mentioned earlier that they had the capacity to design AIS according to international standards said that their organizations would have no problem or challenge at all.

8. What do you think should be avoided or taken into consideration when designing or developing an accounting information system?

- *The system should consider all donors' financial requirements when designing one.*
- *The design should be simple, understandable and friendly user interface*

The researcher sought to find out what the participants thought should be put in consideration when designing an AIS. The participants explained that as their funds came from donations it was imperative that the financial requirements of the donors be taken into consideration. They also suggested that it would be more convenient for the users if the design was simple, straightforward and user friendly. This would reduce the incidences of errors as well as ensure that the users are motivated to use it.

9. Do you have any additional comments?

There were no additional comments

4.10.2 One-to-one interviews

The researcher conducted individual interviews with seven employees from various departments in various national nongovernmental organizations. These consisted of an accountant, a senior accountant, a founder, a director, a finance manager, finance officer and a senior finance officer. These were from DIGC, ZSVP, Women's empowerment for peace building, Nujeen and Harika. The first question was related to the name of the participant and will not be revealed as the researcher aims to protect the privacy and anonymity of the participants through this way.

1. In what way have accounting information systems been useful to your organization's financial reports?

Most of the respondents pointed out that accounting information system had been useful to their organizations. However, some also explained that they had not had the opportunity to use the system and some found it to not be beneficial for them.

We didn't use accounting information system we use manual system by excel, on my opinion having AIS in NNGO will give more transparency of accounting transaction and give quick and immediately financial report and better than manual system (Interviewee 4).

We don't use AIS because we don't have capacity and we use Excel for financial reporting and donors put on their system (interviewee 6).

The above comment from interviewee 4 indicates that even though they are not really that much aware of AIS, they can recognize how the system would be useful to their work. They also imply that the AIS would be more superior to the manual system that they are currently using. Another issue raised by another participant was that of donors bringing their own systems. They also pointed out that they did not have the capacity to have their own accounting information systems and thus relied on the donors for that.

AIS is useful for donor not for NNGOs because NGOs is only doing the donors requirements and spending the funds (interviewee 3)

Some opinions were divergent like the one above from interviewee 3 who explained that the AIS would most likely be beneficial for the donors rather than the organization itself as the organization only conducted activities and transactions according to how the donors wanted them.

Using AIS in local NGOs gives a new way for generate financial report and faster than the manual and more accurate (interviewee 1).

Accounting information system in our organization used for two years ago and it was useful for combining the financial report for all donors (interviewee 2).

Well, it saves you time when you generate report by using accounting information system and whatever you entering it giving you the report (interviewee 2).

One of our roles as NNGOs is to have AIS system and financial policy in order to get report whenever you want. (Interviewee 5)

It's very useful to generate the financial report basic and simplify the system and its too basic one (interviewee 7).

According to interviewee 1, accounting information system resulted in the swift generation of reports and was remarkably different from the manual system in that regard. The participant also explained that they also found it to be useful as it produced financial reports that were more accurate and error free. AIS were also found to be useful with regards to being convenient. According to interviewee 5, AIS allowed the organization to be able to make timely reports that were available whenever they were needed. In addition, it was also commended for simplifying transactions and producing simpler financial reports. This was also echoed by interviewee 2 who stated that it saved them time in generation of reports. They explained that the manual system took a long time especially when it came to searching for the reports. However, with AIS they could just enter what they wanted and it would be readily available. They also added that it helped them to combine and integrate their financial reports when they first transitioned from the manual system.

2. Have you encountered any challenges with accounting information systems? If yes, please explain in detail about the challenges

There were mixed responses with regards to the challenges encountered by the participants in their workplace using accounting information systems. Some participants pointed out that they had not yet fully grasped how the accounting information systems work and were still feeling their way around it hence some aspects of it were a challenge as shown by the response below. They were having trouble with posting transactions to the relevant books of accounting and making errors as a result.

The creative things when preparing the budgeting, chart of organization account and transfer the year-to-year balance in the system and monthly closing is giving us the challenge to prepare it sometimes because the system is new for us and it's too soon to understand it (interviewee 1)

The response thus indicates the personnel were still trying to figure things out. The same sentiments were echoed by another interviewee who besides pointing the novelty of the system; also explained that there were no experts who could help them out when they needed guidance.

The biggest challenges for us was the system was new for us and we didn't have capacity of using accounting system if we wanted to ask about the system, we couldn't find any one to ask for (interviewee 2).

And on the other hand, most of donors have their own accounting information system and they don't accept our report because we don't know how to generate them in our system the donor's requirements (interviewee 2).

NNGOs system is different to get the best is the biggest challenge, because you have to use the system be acceptable from all of your donors and to get the simple and fully system is another challenge (interviewee 5)

Another issue raised was also that of donors having their own accounting systems different from that of the organization and the organization failing to produce results the way the donors wanted. This led to some of the reports the organization came up with being rejected by the donors. In addition, because they have different donors, the NNGOs have to produce financial reports according to how the various donors want them and this presents a challenge for them as the reports have to suit these varied requirements. This increased difficulties as the system was already complicated on its own.

However, some participants pointed out that since they did not have the capacity to actually use accounting information systems, and some had never used it, so they did not have any problems in that regard. They also had the advantage of having an accounting system preferred by donors installed by them; thus, having reports easily prepared in accordance with the donor preferences. Another participant also mentioned that they did not have any problem with the system as they found it really easy and simple to use.

Basic of having this simple system and easy using there is not any challenges (interviewee 7)

We don't use AIS because we don't have capacity and we use Excel for financial reporting and donors put on their system (interviewee 6)

We didn't use it to know and getting the challenge (interviewee 4)

Most of accountant backgrounds are not graduates from accounting and finance department and this is very big challenge to understand the system of accounting whether it's manual or electronic system (interviewee 3)

Lack of trained personnel was also found to be a challenge with AIS. One participant indicated that some of the personnel doing accounting duties were not really people with a background in accounting. Because of this they were not fully equipped to deal with an accounting system whether manual or automated.

3. . What would you suggest be done to overcome these challenges ?

Make it very simple (interviewee 1)

Make the clear items to and can translate easily in the system. (Interviewee 1)

Be very simple system and could anyone use it (interviewee 6)

Some participants had indicated that they were having difficulties with the accounting information system as it was complicated and they had a hard time finding their way around it. They thus suggested that it would be a big help to have simplified systems so that they would have an easier time with it. In addition, clarity would also help ensure that items are translated correctly in the system.

Hiring real accountant in accountant position in order to understand more about financial reporting (interviewee 4)

Train them to be familiar with using newest AIS (interviewee 4)

First of all, to make training of accounting system and having very good capacity and admin for system (interviewee 1)

The issue of having well trained expertise was also raised as a means to overcoming problems with AIS. Since some organizations had problems with personnel, some participants pointed out that it was necessary to employ people with accounting background as they are the ones in a better position to tackle accountings systems. In addition, they would easily and readily understand issues associated with financial reporting. Training of personnel was found to be of utmost importance especially in relation to new AIS so that they would be furnished with the proper skills. It would also increase employee AIS capabilities as these were found to be sorely lacking.

Connect to the server in order to don't miss the data

Make the system the control system on it and don't accept the mistake in recording (interviewee 1)

Open all factors of the system so any one in finance team could use it easily and all factors should be open not only recording or data entering (interviewee 2)

The participants also indicated that improvement in hardware and internal controls could also help overcome accounting information system challenges. One of them explained about the whole system being connected to a central

server so that information is available to everyone across various departments. This was also raised by another participant who suggested that increased access to the system would be convenient to the finance personnel. However, some were of the opinion that internal control system should actually be tightened to limit access so that there would be fewer mistakes and those that happened would be traceable.

If we used AIS we should first know which one we will use it and why we will use it and how it can work, if we get those question answer we will overcome the challenges of using AIS (interviewee 3)

The comment above shows that some respondents were of the opinion that it would be easier to overcome any challenges if there was enough and detailed information about the kind of system they used. This also implied that they are not really aware of the accounting information system in their workplace.

*Find the best system with international standard design (interviewee 5)
I suggest all NNGOs use the same system (interviewee 7)*

Lastly, other participants were of the opinion that the design of the system could help take care of some challenges associated with accounting information systems. One interviewee suggested using the best system according to international standards. They explained that having that would ensure that the reports were already produced the way that donors would approve and there would also be less room for errors. Another interviewee pointed out that if all NNGOs used the same system then this would make things easier. Comparison would be easier and also there would be a set standard to regulate activities that would increase accountability.

4. In your opinion, is having an international standard of accounting information system in an NNGO important? Why?

Diverse opinions were found with regards to this question. Some interviewees felt it was necessary to have a standardized accounting information system in their organizations; whilst others felt it was totally unnecessary.

We are in technology days and systematic accounting is very important because it show more transparency and you can easily find the mistake came from which user (interviewee 1)

Important to use it because having transparency and no document and data will be missing and you can find whatever you want in an easy way (interviewee 7)

It's important for showing more transparency and saving time (interviewee 5)

And on the other hand, it could help you when you want to find any item or any accounts balance (interviewee 1)

A common theme from the comments above is that of having a standardized system for transparency purposes. They explained that when there is a standardized system there are high levels of tracing and this there will not be a problem of data going missing as there would normally be if different kinds of systems are used. The interviews explained that a standardized accounting information system would be helpful for internal control purposes as the system would reveal user activities and help the organization trace user activities. In addition, it would be easy to locate files and documents thus saving time.

It's very important to have international standard of AIS because it might use as official system and could share the report from the system to the partners. (Interviewee 2)

It's important for having AIS because they will make the process of Accounting and financial so fast (interviewee 3)

The responses above also point out that a standardized system would mean that the organization uses the same system that their donors use and this would make the process of sharing transactions and important documents between them easier. This would also result in increased swiftness in the accounting and financial processes. However, some interviewees felt that there was no need to have standardized accounting information as revealed in the responses below.

It's important but for international NGOs not for NNGOs because most of the donors understand that NNGOs doesn't knowledge about accounting process (interviewee 6)

I don't think it's a very big deal of having AIS, because we are only spending money and you can do all donors requirements from the excel sheet and most of donors accepting that and know our capacity is not enough for using international Accounting System (interviewee 4)

One interviewee pointed out that the donors already understood that national nongovernmental organizations had limited knowledge about some of the accounting processes so there was no need to go to the effort of using a standardized system. The interviewee also pointed out that such a system would be more beneficial for international nongovernmental organizations rather than the local ones; because the foreign ones conducted activities on an international level therefore it would make more sense for them to have a standardized system. The other interviewee pointed out that there was no need for the standardized system because they already did all they needed to with their own systems and their donors accepted it. A new system would thus only be a waste of precious money. They also pointed out they were ill equipped to deal with an international system and explained that such a system would mean having to train personnel and, in some cases, even purchase additional equipment and software. They therefore felt that the current situation served them just well.

5. How has lack of a standardized accounting information system affected your relationship as an organization with your donors?

The responses to this question just like the preceding questions were split into those that felt there were problems and those that felt like it did not affect anything. Some interviewees pointed out that having the standardized system would boost the relationship between the donors and the organization as they would have less room for contentions regarding transactions and activities.

When you apply the proposal and ask what the system your organization use for financial so, it affects the relationship and there is ability to answer the donor requirements related to the financial in very

quick time and this is positive thing between donor and implementation partner (interviewee 1)

Is affecting the relationship with donors because one of the most request from the donor to have a policy and system of financial Processing (interviewee 5)

Well, it's affecting the relationship now a -day almost of donors they ask of having financial policy and system then this is one of the requirements but because of our system that we don't know to use it in good way there are some points we didn't get our donors approval for using system and they don't accept our system report and we give them by manual sheet. (Interviewee 2)

Most donors ask which system you use for financial report so having AIS is affecting. We have viewing user and our donor has it they can easily see what we have done. (Interviewee 7)

However, a lack of it would mean they are not able to fulfill donor requirements sometimes. Another interviewee pointed out that lack of a standardized system led to some of their reports being rejected by the donor because they were not done in a manner that met the donor's approval. In the end they have to resort to doing these manually.

I think it's not affecting the relationship between NGOs and donors and it's not connecting with the system of accounting but it connecting and affecting with the process and accounting policy (interviewee 3)

What I mentioned before that our donors accepting our policy and process of accounting either having AIS or not it's not affecting our Relationship (interviewee 4)

Actually, our donor understand our situation and they accept us without having AIS (interviewee 6)

The responses above reflected that lack of a standardized system did not have much of an effect on the relationship between the organization and the donors. One mentioned that it would only affect the organization's accounting policy and process. Other participants pointed out that donors already accepted their own system therefore they were in agreement and there were no problems regarding their business relationship.

6. Do you think your organization have the capacity/ability to design an accounting information system according to international standards?

For now, we are able to design IAIS in our organization but not 100% I can give 60% we have capacity and understand the AIS (interviewee 1)

Yes our organization designs by itself the financial AIS and its very good System. (Interviewee 7)

Yes, our organization can design own AIS according to the international standards, as before. Using Quickbooks we had our own system it was very good database system and we could do every requirement on it (interviewee 2)

Depend on the NNGOs, some of them have knowledge and some don't. Those who have knowledge could design very good international standards AIS and vice versa. We used our own system and it's acceptable. (Interviewee 5)

Most participants felt that they actually possess the ability and capabilities to design an accounting information system according to international standards. One participant pointed they understood accounting information systems enough for them to undertake such a task even though at the current time they were not 100% capable. Another pointed out that they would have no hardship designing the accounting information system as they had already designed the one that they were using. However, another participant felt that the ability would vary from one organization to the other and pointed out that those who understood accounting information systems fully would have no trouble doing that. They also pointed out that they designed theirs and it was functional therefore they could also be capable of designing one of international standard.

No, we can't organize the AIS; we hardly understand those things (interviewee 3)

For sure no because we don't have good budget and also knowledge about AIS we are ok with excel sheet (interviewee 4)

No, we can't design it (interviewee 6)

Some of the participants pointed out that they would not be able to design an accounting system according to international standard, and someone pointed out that they were content with the current one thus had no desire to even change things.

7. What do you think is hindering your organization from designing an accounting information system according to international standards?

Capacity and knowledge (interviewee 3, 4, 5,6)

Employee background (interviewee 3)

Budgeting (interviewee 4, 6, 1,2)

Time (interviewee 6)

Lack of board support (interviewee 1)

Lack of trust (interviewee 1)

The participants raised issues of knowledge, employee competence, time, budget, support and trust as the reasons they were not employing accounting information systems based on international standards. One interviewee explained that a good system needs good money and in NNGOs there is no specific budget for accounting system. This was also echoed by other participants that explained that their budgets were limited especially because they relied on donor funds. They also explained that their donors would have specific instructions sometimes on what the funds should be used for therefore they would not have the freedom to use the funds on an accounting information system. Another participant simply explained that accounting information systems were costly to set up and their budgets were constrained as it is thus, they were not able to fund one.

The issue of employee competence was also raised by another participant as an obstacle to having an international accounting information system. They explained that the employees did not possess enough knowledge to come up with one and neither did they have the capabilities to actually work with one. This was mentioned in line with the fact that some if not most of the employees lack adequate accounting background and thus it was a great problem.

Another reason for the lack of competence according to the participants was lack of adequate knowledge to be able to do the designing. One participant explained that they found and learnt from online how to design and use AIS to NGOs, only the NNGOs system is not like any other corporate institution and so there is very little knowledge about it online and its report.

Another participant also pointed out that there was lack of support from the board of directors. Even if they wanted to have their employees trained out of the country or outsource the necessary labor, the boards of directors were not willing to do it.

The board of the organization didn't give us or let us to improve our self of designing good AIS according to international standards and don't help or transfer as to the training to outside, that is also connected with the budget

Only one participant mentioned that there was nothing standing in the way of them designing an accounting system according to international standards. They explained that since they had designed their current one, they could easily do one made according to international standard.

Nothings is hindering us for that our system we designed by our self and could use to all NNGOs and it's very simple and easy one (interviewee 7).

8. What do you think should be avoided or taken into consideration when designing or developing an accounting information system?

A few suggestions were raised by the participants concerning what should be taken note when designing or developing an accounting information system. One participant suggested that it is crucial that versatility be taken into consideration. They explained that the system should be capable of producing different types of documents especially financial reports so that the process of reporting can be more efficient and accurate.

Versatility-It might to generate all financial report (interviewee 3)

Be fast and work offline as well (interviewee 4)

Participants also pointed out that the system should be easy to use and understand. They explained that most of the times they had problems with complex systems that they ended up failing to effectively and efficiently use. As a result, this also affected their financial reporting. They thus advocated for simple accounting systems that the users will have no trouble acclimating to.

It could be understandable and easy to use (interviewee 2, 6)

All accounting system is good, but the most important thing to do in developing is to make it understand the mistake in data entering (interviewee 1)

In addition, another participant explained that the system should be easily fixed in the event that something went wrong with it. Often enough some organizations have systems that are complex and would need a special kind of expertise to be fixed when something goes wrong; which may end up being inconvenient for the organization. The system therefore has to be one which the organizations can easily find technicians for.

It should be fixed if it's damaged

Other participants pointed out that safety and security were of utmost importance in developing an accounting information system. They explained that the system needs to be airtight with regards to security so that there will be no loss of data. They pointed out that there is a lot risk associated with automated systems and they can be hacked or breached and important organization stolen. The system should therefore be secure. In addition, they also explained how automated systems can pose risk especially associated with electricity. They must therefore be safe to use.

Safety and security (interviewee 2, 5)

Only one respondent failed to address the question but they pointed out that their own system was sufficient and only needed minor upgrades.

There is nothing missing in our system, only updating and more developing needs in the assets report and will do it very soon (interviewee 7)

4.11 Summary

The chapter focused on the analysis of the quantitative and qualitative data. The researcher conducted various tests from descriptive to correlations and regression analysis. All the 50 distributed questionnaires were returned and were valid, thus giving a 100% realization rate. The researcher conducted Cronbach Alpha tests to establish the reliability of the questionnaire as a research instrument and it was found to be reliable for use. Descriptive

analysis revealed moderate to strong agreements on the statements given. The correlation analysis revealed a positive and significant relationship between accounting information systems and financial reports as well as other sub variables. The regression analysis also confirmed this and revealed significant relationships that led to the rejection of the null hypothesis and acceptance of the alternative hypotheses. Accounting information system quality, internal controls and user competence in accounting information systems were found to be predictors of financial reporting.

CHAPTER 5

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter represents the final chapter in the researcher's study. It focuses on the discussion of the findings, the conclusions that are drawn from them and the recommendations. In this chapter, the researcher presents the key theoretical findings and the empirical findings obtained from the study. Comparisons of similarities and differences between these results are examined and from this the researcher can determine if there is any contribution to science. The researcher also points out the limitations for this study and it is upon them that the recommendations are given. The study then ends with a conclusion of the chapter.

5.2 Key Theoretical Findings

Accounting information systems are a great tool for organizations especially in decision making. They are employed by the organization to deal with several aspects like documents, hardware, software, internal controls, people and data. A combination of all these factors forms an accounting information system. The organization looks at all these aspects and tries to ensure that they are always of top quality. For example, the software is kept up to date and the internal controls are put in place to maintain security in the organizational systems.

Accounting information systems are important to the process of financial reporting. They help to ensure that quality reports are produced. They enhance the accuracy of the reports by reducing or eliminating the incidences of errors. They also provide guidelines that can be followed which provide structures to the organization. They improve transparency as the management can easily determine and trace the activities of the employees. In addition, they are of importance in the sense that the organization can meet the requirements of donors especially in a nongovernmental organization. Reports and important

financial statements are produced in a timely fashion. Because of the transparency that is improved, the donors and partners working relationships is enhanced and, in some cases, this motivates donors to produce funds.

The accounting information systems need to be greatly coordinated for it to be efficient. This is why all the elements of an accounting system are designed in a way that should have synergy. The users of the system must be able to use the system effectively and efficiently therefore the characteristics of the system must be such that the user and the system work smoothly together. Expertise is therefore required and mostly this comes from accounting personnel. However, because of the ever-changing environment accounting information systems also need to be constantly upgraded and revamped to ensure the organization stays on top of things.

This then requires a smooth workflow between the accounting personnel and those with information and technology background. The environment is an important factor to take into consideration in the designing of an accounting information system as well. This is why the information technology team and the accounting personnel work hand in hand to ensure that they produce a system that meets environmental as well as organizational changes. However, they should also reflect the internal environment and be aligned to the structure of the organization for them to best serve the needs of the internal users.

The accounting information system must be of good quality. Such a system would also result in high quality reports being produced. a good quality system would be one that is reliable as well as safe. A weak system is prone to attacks from hackers, viruses and breaches from unauthorized people. In addition, the quality also depends on the inputs; if quality information is put in then there will be output of good quality. An accounting system should be aligned to the environment and duties of the employees. It should also be able flexible, aligned to the environment, integrated with other components so that it works seamlessly across departments and differentiated to meet the needs of the user for decision making.

Job performance is an outcome of the user's competence. Users of the accounting information system should be well equipped to work with the system. They should possess the relevant educational background and the necessary computer proficiency so that they effectively use the system. In addition, they should regularly upgrade their skills to match developments in the environment that may affect the system and its outcomes. Having the relevant and appropriate skills creates an optimum environment for technology systems to thrive, enhancing operations of the company.

Nongovernmental organizations prepare their financial statements differently from other organizations as they are not-for-profit organizations. This also means that their accounting information systems are set up slightly different in some ways. Nongovernmental organizations do not normally follow international accounting standards though this is recommended by governments in order to enhance accountability. They are also not obligated to produce annual reports but some of them do because their donors want to also keep track of how their funds were used and other important financial transactions.

5.3 Empirical Findings

5.3.1 Demographic characteristics

There were almost twice the numbers of males compared to that of the females. Considering that the researcher visited quite a handful of organizations for data collection, this finding may imply that there are more men employed in the financial and logistics sector as compared to females. On the other hand, it could simply be an indication that the males were more interested in participating in the study than the females. The age distribution was found to have most employees in the 29 to 40 age range and this implies that the Duhok city has a productive workforce. Naturally, most of the respondents and participants of the study came from the accounting and finance department as this is more related to accounting and the researcher tried to focus more on this department as they use the accounting information systems daily.

The results revealed that whilst most of the respondents were familiar with accounting information systems, some were just somewhat familiar with it and a few were totally oblivious to it. This finding corroborates findings of the interviews where the participants mentioned that there was lack of people adequately equipped with the relevant skills to use let alone develop an accounting information system. The results showed that the city also had quite an educated workforce as most of the employees possessed at least a Bachelor's degree as their highest qualification. In addition, they also responded that they had at least average computer skills which mean they only need to have those skills properly channeled for the greater good of the organization.

5.4 Impact of Accounting Information Systems on Financial Reports of NNGOs

The study was aimed at establishing the usage of accounting information systems in NNGOs in Northern Iraq. The study revealed that there were strong and favorable responses to statements pertaining use of accounting information systems for the improvement of financial reports. AIS were found to improve financial reports in a number of ways like improving quality of reporting, increasing transparency, reliability and accuracy of financial reports.

However, the improvement in the speed, efficiency and accuracy of the accounting process was found to have the most impact as reflected by the high mean value of 4.46. This was also observed in the results from the interviews, where participants pointed out those accounting information systems had greatly increased the speed at which financial reports are processed. They also revealed that transparency had been enhanced. A glance at the correlations also revealed a positive association between AIS and financial reports as revealed in the 16% association. Usage of accounting system therefore contributes positively to financial reports and improves performance at the workplace.

Accounting information systems are thus of great importance to producing great quality financial reports. The results from the study in this regard also confirm the results from the theoretical literature by other scholars. (Iskandar

& Setiyawati, 2015) pointed out that in nongovernmental organizations, accounting information systems help the organization to have accurate records of transactions and these are used by donors to determine how their funds were used and if they were used for the reasons that they disbursed them. (Tan, 2016)) and (Mitrovic, 2016)also advocated for production of quality reports to enhance reporting.

The study revealed that respondents' responses were of moderate agreement when they were asked about their opinions regarding the quality of their own accounting information systems and how quality could affect financial reports. The strongest agreement came from the statement that automated accounting information systems provided more detail compared to manual systems as reflected in the high mean value of 4.04. The system was found to be preferable to the manual system of doing things. The least response pertained to the question of whether their current systems were well maintained and serviced regularly. This only got slight agreements which are more or less an indication that the system used by the respondents is not that much taken care of as they should be. The general responses however, show that the quality of accounting information system was important to the quality of financial reports produced. This was also corroborated by the results from the correlation analysis where a positive and significant relationship of 40.5%.

A quality accounting information system produces reliable outcomes and produces reports that are accurate and free from errors. In addition, it also results in a great co-ordination between the users especially as the system is used by people from various departments. One participant in the interview mentioned that the accounting systems should be made in such a way that they can be easily accessed by all the relevant employees. This was also advocated for by accounting boards like the (AICPA, 2013). They stipulated that a good quality accounting information system should make information easily available.

Internal controls were found to have a strong, positive and significant association with financial reports with an association of 64%. These results

were also supported by those from the regression analysis where an increase in internal control by 1 unit was found to lead to an increase in financial reporting by 0.393 units. However, a look at the responses revealed that the respondents did not express much faith in their own systems and thus only slightly agreed to different opinions. An example is where respondents were asked to give their opinion on whether they thought their personnel were trained enough that they could detect any breach attempts. The respondents' level of agreement was very low. A similar result was observed when they were asked to establish if their organization has proper detective controls, which are designed to identify errors or irregularities after they have occurred.

The interviewees also mentioned when they were asked what they could do to overcome problems associated with accounting information systems; that organizations should tighten their internal controls. One participant pointed out that having a standardized accounting information system would help them to have guidelines that made sure errors were observed and sources of discrepancies known. They also pointed out that it would improve transparency especially as they have to report back to donors. These findings are also in line with those of (Noemí Pena-Miguel, 2018). However, the survey and the interviews both revealed that the respondents only slightly agreed with the strength of their own internal controls. The researcher thus advocates for in-depth analysis by the NNGOs of their internal control systems so that they are up to par to detect breach attempts and other necessary security requirements.

User competence was found to be positively and significantly associated with financial reports. At 73% it had the highest association with financial reporting compared to other variables. These results were also confirmed by the regression analysis an increase in the user competence was found to significantly increase financial reporting by 0.633 units. The respondents acknowledged that they have a highly trained workforce which acts with professionalism and management supports them. However, the respondents expressed indifference when they were asked if their personnel possessed

sufficient accounting information systems and computer proficiency. This was also confirmed in the interviews conducted.

The interviews revealed that even though there was a highly skilled and educated workforce, there was a general lack of training amongst the employees especially with regards to accounting information systems. Another problem that was also observed was that some of the employees in the accounting offices did not possess sufficient accounting educational background and were in fact from other business backgrounds. It is vital that accounting information systems be dealt with by people with necessary and sufficient experience for the process to move smoothly. According to (Ismail, 2009), lack of expertise in accounting information systems results in lack of alignment between the system and the user requirements. This may also be reason why the respondents and participants explained that their current systems were difficult to understand and use. The researcher thus advocates for the recruitment of more accounting personnel so that they fill the gap that has arisen. They can even outsource the skills but it would be more conducive for institutions to train more students or develop an accounting information systems course so that the future employees have the relevant skills.

The International Federation of Accounting, (IFAC, 2014), also recognized the importance of accounting personnel possessing information technology skills and stipulated that accountants should possess general information technology competencies that would enable them to understand how the software and hardware components related and how they could be used to facilitate business transactions, understand risks and how to manage it within accounting systems and in communication. The NNGOs should thus ensure that their employees are equipped with the necessary information and technology skills. In fact, considering that technology is always changing it may be more fruitful to set up continuous professional development programs for the accounting personnel so that their skills are always current and relevant.

In terms of designing an accounting information system, the interviews revealed that most of the organizations did not possess the capacity and ability

to develop accounting information systems according to international standards. Only two participants expressed that their organizations could do this. The interviews also revealed that there were budgetary constraints across the organizations that impeded this process. Moreover, they also revealed that there was a lack of expertise and their personnel did not have enough skills to undertake this project.

Some donors also came with their systems and as a result the NNGOs use the systems preferred by their donors. Because of this these organizations will be most unlikely to want to change things and are content with the way they perform their transactions. As one participant put it, they have the capacity to develop accounting information systems but they are content with their operations thus have no desire to change it. In some cases, the boards of directors are the ones that are not interested in changing anything. They, along with some donors are not willing to fund such a project. Most interviewees pointed out that designing and developing an accounting information system is quite an expensive undertaking and seeing as they rely on donors to fund their activities; if the current systems are working there is no need to channel funds towards this activity but towards other things.

The interviews also revealed that the lack of a standardized accounting information system sometimes created problems between the donors and the partners. Another participant even pointed out that that they once had their reports rejected at one time because they were not in the format the donors wanted yet there are no specific guidelines as a result of the lack in standardization. Some participants pointed out that they were having challenges with their systems as they were complex and not easy to understand. In other cases, this was increased by the language barrier where the system manuals and instructions are in English and they have trouble correctly translating and interpreting meanings. They suggested that when accounting systems are being developed it is necessary to make them easy to use and understand for optimum usage. This is also in line with what was suggested by (Fontinelle, 2020) that accounting information systems should be designed in ways that make them user friendly as well as easy to adjust as the

environment is constantly changing. They have to thus be able to also be changed in line with the external environment changes.

5.5 Hypothesis Test Results

The results of the study revealed significant relationships between the accounting information systems variables and the financial reporting on NNGOs. The correlation analysis revealed positive and significant relationships between accounting information systems variables of usage, internal controls, quality and user competence with the dependent variable of financial reporting. These results were also corroborated by the results from the regression analysis that indicated increases in independent variables led to increases in the dependent variable. The p value was also found to be 0.000 which signifies that the independent variables were statistically and significantly predicted financial reporting. This led to the rejection of the null hypotheses and the acceptance of alternative hypotheses.

Table 5.1: Hypothesis results

Hypothesis	Outcome
Null Hypothesis: There is no relationship between the Accounting Information system and Financial reports in National NGOs.	Rejected
Alternative: There is a relationship between the Accounting Information system and financial reports in National NGOs	supported
Null Hypothesis: The Accounting information system quality does not affect financial reports in National NGOs.	Rejected
Alternative: The Accounting information system quality affects financial reports in National NGOs	supported
Null hypothesis: the effectiveness of internal controls in accounting information systems does not affect the financial reports of NNGOs	Rejected
Alternative: the effectiveness of internal controls in accounting systems affects financial reports in NNGOs	supported

Null Hypothesis: an accountants' competence in AIS does not affect in generating financial statements in National NGOs.	Rejected
Alternative: an accountants' competence in AIS affects generation of financial statements in National NGOs.	supported

5.6 Implications of the Study

The results both quantitative and qualitative revealed that the NNGOs still have a long way to go with regards to accounting information systems. There is a lack of expertise, weak internal controls and capacity to develop a standardized system. The study also brought out the need for a standardized accounting information system so that transactions can be made smoother and the process of accountability be strengthened. The participants of the study also pointed out how having standardized accounting information systems could improve accountability, swiftness and accuracy of reporting in the NNGOs. It also revealed a lack of support from the relevant parties like board of directors and some management who did not possess enough knowledge about AIS to pass it down to their subordinates.

The usage of accounting information systems in the Northern Iraq region is not as widespread. There is therefore need to have standardized information systems that suit the needs of the organizations as well as their donors. Particular attention should be taken when designing these systems as NNGOs are set up differently from commercial companies. They should make them in local languages for easy interpretation, make them easy to understand and ensure that there are technicians that can fix them if something goes wrong. In addition, they should be of high quality with the proper internal controls put in to ensure maximum security and confidentiality; as well as used by personnel with adequate training. Management should also have these skills so that they are in a position to help the employees out.

5.7 Limitations

The study was focused on only Duhok city. As a result of the corona virus pandemic, the researcher ended up conducting some of the interviews in a group format over an online platform instead of conducting all of them in person. Studies in other cities like the capital Erbil, may reveal a better usage of accounting information systems or different aspects regarding the developing and designing of accounting information systems. These areas may well be worth future studies.

5.8 Recommendations for Future Studies

The researcher acknowledges the limitations of the study and thus recommends that future studies be focused on other cities in Northern Iraq. In light of the current pandemic, the researcher would like to point out that this is a new avenue that is worth exploring with regards to NNGOs. Studies can be focused on coping strategies in time of the pandemic. The researcher also advocates for future studies to be conducted based on a wider population as this was focused on only 66 employees. A wider coverage would be more ideal. Lastly, this study focused only on personnel from the accounting and logistics background mostly. Information technology personnel are also usually involved in the designing of accounting information systems. Future studies can be done based on these employees to determine whether they have the capacity to develop standardized systems and to gain insight into any challenges they might be encountering.

5.9 Conclusion

This chapter was the last chapter in the study. It focused on the discussion of findings and drawing similarities and differences with other studies. The study revealed that there was a positive and significant relationship between accounting information systems and financial reporting. This led to the null hypotheses of the study being rejected and the alternative hypotheses being accepted. User competence was found to have the highest correlation followed by internal controls. The research revealed that the employees did not possess

sufficient information technology skills to deal with accounting information systems and there was a general lack of expertise in that aspect. The study also revealed that accounting information systems were not as widely used in the Northern Iraq region in NNGOs. They also lacked the capacity to develop standardized accounting information systems mostly as a result of lack of funds and the skills to undertake the project. The study was focused only on Duhok city and on 66 employees and the researcher recommended future studies be done on a wider scale as well as including the information technology personnel. Lastly, the researcher concludes that accounting information systems are an integral part of NNGOs that should be incorporated to ensure improved performance and better relations between the donors and the organization.

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APPENDICES

APPENDIX 1 INTERVIEW QUESTIONS

One-on-one INTERVIEWS – Usage of accounting information systems in NNGOs in Northern of Iraq TOOL

Interviewee number	
--------------------	--

INSTRUCTIONS: *The facilitators/interviewer when asking the questions, should try to dive deep into more than basic answers and have follow up questions in order to capture qualitative information. You can record the interview to go back to the discussion in order to ensure all information are included.*

KEY CONSIDERATIONS: *You should take all potential ethical concerns into consideration before the discussion, considering the safety of respondents, ensuring that all participants agree that no information shared in the discussion will be disclosed outside the interview, and obtaining informed consent from participants.*

The interview should not last more than forty minutes. Interviews should be conducted with personnel who work as accountants in NNGOs, they could be adult men and adult women. It is important that the participant understand the purpose of the discussion and that you do not make false promises.

Due to the limitation of conducting interviews face to face because of the distance between the interviewer and the interviewees, facilitator might collect data through either phone calls or online communication platform media.

ESSENTIAL STEPS & INFORMATION BEFORE STARTING THE INTERVIEW

Key messages to be read out:

The purpose of this discussion to ask you a few questions related to the study scope which is the usage of accounting information systems and its impact on financial statement in NNGOs. The intent of this research is to understand the organizations approach of using different accounting systems in producing financial reports and its effects on management in decision making. It should take approximately 40 minutes.

- The information you provide me will remain absolutely confidential and anonymous.

- Participation is voluntary.
- You are not obliged to answer a question if you don't wish to.
- You can leave the discussion if you want to at any point and there will be no consequences.
- If you wish to share personal examples or experiences, your name will not be shared
- The facilitator might interrupt discussion in order to respect the interview time or take the interviewee back on track.
- The purpose of the recording is to ensure that the information collected is precise. Your identity will not be mentioned.
- There will be no monetary gain in participation

CONSENT: Are you willing to participate? <input type="checkbox"/> Yes <input type="checkbox"/> No	Is it ok to record the interview? <input type="checkbox"/> Yes <input type="checkbox"/> No
--	---

QUESTIONS	COMMENTS
<p>What is your position in this Organization?</p>	
<p>In what way have accounting information systems been useful to your organization's financial reports?</p>	
<p>Have you encountered any challenges with accounting information systems?</p> <p>If yes, please explain in detail about the challenges</p>	
<p>What would you suggest be done to overcome these challenges?</p>	
<p>In your opinion, is having an international standard of Accounting information system in an NNGO important? Why?</p>	
<p>How has lack of a standardized accounting information system affected your relationship as an organization with your donors?</p>	

<p>Do you think your organization have the capacity/ability to design an accounting information system according to international standards</p>	
<p>What do you think is hindering your organization from designing an accounting information system according to international standards?</p>	
<p>What do you think should be avoided or taken into consideration when designing or developing an accounting information system</p>	

APPENDIX 2 QUESTIONERY

A research about Usage of Accounting Information System in National NGOs in Northern of Iraq

Dear Participant.

This questionnaire is part of the current research that I am working on, my research is titled

"Usage of Accounting Information System (AIS) for National Non-Government Organization (NNGOs) in Northern Iraq". The purpose of this study is to determine the usage of accounting information systems in NNGOs and determine their impact on financial reports of NNGOs. This information will assist them with knowledge on how to design and use an Accounting Information System. It will also establish contents needed for Accounting Information System for NNGOs in KRI, according to international standards. This will support them in showing professionalism in project implementation in terms of finance, increasing transparency, and making them eligible for receiving funds. Your participation will benefit in identifying the weaknesses of the NNGOs financial systems and support to improve the quality of the financial reports which will lead to better decision making.

Please note that your participation is voluntary and will not affect your job. Your identity will not be revealed in any case to third parties. Your answers will be confidential and the data collected will only be used for this study for academic research purposes and may be presented in national/international academic meetings and publications. Your feedback is important for the study and it will be highly appreciated but in case you wanted to withdraw halfway, your data will be deleted and won't be used for the study.

By responding to this questionnaire, you will be giving your consent to participate in this study.

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AIS = Accounting information systems

NNGO= National Non-Governmental Organization

SECTION A DEMOGRAPHICS**1. Gender**Male Female **2. Age**18-28 29-34 35-40 40+ **3. Department**Accounting/Finance Procurement/ Logistics Management **4. Are you familiar the accounting information system?**Familiar somewhat familiar unfamiliar **5. Highest educational qualification**diploma Bachelor's Masters PHD **6. Computer skills**poor average good very good **7. Which accounting system have you used?**ERP Andalos Quick Books Excel/ Manual

Please tick as appropriate

Strongly disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly agree (SA)
1	2	3	4	5

		1	2	3	4	5
		SD	D	N	A	SA
SECTION B: Accounting Information Systems usage						
8.	using the accounting system improves the speed of the accounting process in NGOs					
9.	using the accounting system improves the efficiency and accuracy of the accounting transactions in NGOs					
10.	using the accounting system improves the flexibility and trustworthiness of accounting in NGOs					
11.	using the accounting system increases the security of accounting in NGOs.					
12.	Accounting Information System increases the reliability of information produced					
13.	AIS improves the quality of accounting information which in turn enhance decision making.					

		1	2	3	4	5
		SD	D	N	A	SA
SECTION C: AIS system quality						
14.	Our AIS network system and components are well maintained and serviced in time					
15.	Our accounting information system is characterized by high speed in processing and retrieving information					
16.	reports generated with an accounting information system have more comprehensive content than those from the manual system.					

17.	The use of accounting information systems leads to consistency in accounting methods.					
18.	The accounting information system in our organization is secure and data is confidential					

SECTION E: user competence

		1	2	3	4	5
		SD	D	N	A	SA
19.	Our management provides quality training, continuous professional development and services in AIS					
20.	Our personnel possess sufficient knowledge in and are familiar with the accounting information system and its related processes					
21.	Our personnel are sufficiently qualified to handle accounting information systems					
22.	Our personnel possess sufficient information technology skills to use accounting systems					
23.	Our personnel are highly professional and maintain a high standard of professionalism					
24.	The management offer a high level of support to personnel in dealing with accounting information systems and reporting					

SECTION D: internal controls

		1	2	3	4	5
		SD	D	N	A	SA
25.	I believe access to data is properly authorized, controlled and is safe from third parties					
26.	Our organization has policies, procedures, organizational designs,					

	and physical barriers that contribute to the control structure				
27.	The organization routinely fixes bugs and ensures records are safe at all times				
28.	There is proper monitoring on electronic devices in my workplace				
29.	Our organization have proper detective controls, which are designed to identify errors or irregularities after they have occurred				
30.	Personnel are properly trained and can detect phishing attempts				

SECTION F: financial reports

		1	2	3	4	5
		SD	D	N	A	SA
31.	The organization's financial reports are inclusive of all the financial aspects that users need in the decision-making process					
32.	Financial reports are judiciously prepared to ensure accuracy and correctness					
33.	The financial reports are provided in appropriate time so they reach the decision maker before losing their ability to influence the decision taken					
34.	The company's financial reports are adopted in the same way in comparison with other NNGOs					
35.	The provided financial reports are consistent with the user's needs in different financial periods per year					
36.	The financial reports extensively disclose information on corporate governance issues					

37.	The results of the current accounting period are comparable to those of the previous accounting periods					
38.	The financial reports highlight positive and negative events in a balanced way when reporting the annual results					
39.	The financial reports explain the choice of accounting clearly					

APPENDIX 3 INFORMED CONSENT FORM

A research about Usage of Accounting Information System in National NGOs in Northern of Iraq

Participant Information Sheet and Informed Consent Form (Qualitative)

Dear Participant,

You are asked to participate in a research study that I am carrying out in order to know how to design and use an Accounting Information System and what should it contain for NNGOs in KRI according to international standards that will support them in showing professionalism in project implementation in terms of finance, increasing transparency, and making it eligible for receiving funds. Your participation will benefit in identifying the weaknesses of the NNGOs financial systems and support to improve the quality of the financial reports which will lead to better decision making. If you agree to participate, I will be contacting with you to set a date and time to arrange a one-on-one interview with you. During the interview which will take around 40 minutes, I will be asking you questions, the questions are in the attached file, related to the finance systems used, the process of doing financial transaction and how the reports are produced in your organization to reflect the relevance, effectiveness, and the capacity of your organization regarding the accounting information system used in your organization. The data from the interview will be recorded in the interview sheet and will be kept in a secure cloud data storage for 2 years after the completion of the study then they will be deleted from our databases. All interviews will be transcribed by hiding any identifying information.

Please note that your participation in the study is voluntary and whether you agree to participate or not will have no impact on your job in your organization. The data collected during the course of this study will be used for academic research purposes only and may be presented at national/international academic meetings and/or publications. The information you provide me will remain absolutely confidential, anonymous, and will not under any circumstances be exposed to third parties. You can leave the discussion if you want to at any point and there will be no consequences. You are not obliged to answer a question if you don't wish to. The

purpose of the recording is to ensure that the information collected is precise. In case you have any questions or concerns, please contact us using the information below.

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Faculty of Economics and
Administrative science

*Near East University, Nicosia,
Northern Cyprus*

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By signing below, you agree to take part in this study.

Full Name _____

Signature _____

Date _____

PLAGIARISM REPORT

Thesis H

by Thesis H Thesis H

Submission date: 24-Dec-2020 10:35AM (UTC+0200)

Submission ID: 1481055655

File name: Muhamad_Abdulah_Yassien_Thesis_Abstract-refrences.docx (607.39K)

Word count: 33431

Character count: 187568

Thesis H

ORIGINALITY REPORT

12%	10%	4%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

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ETHICS COMMITTEE APPROVAL



BİLİMSEL ARAŞTIRMALAR ETİK KURULU

22.09.2020

Dear Muhamad Abdullah Yassien

Your application titled **“Usage of Accounting Information System in National Non-Government Organization in Northern Iraq”** with the application number YDÜ/SB/2020/765 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Direnç Kanol