NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF BANKING AND FINANCE
BANKING AND ACCOUNTING PROGRAM

THE ROLE OF MANAGEMENT ACCOUNTING IN THE DECISION-MAKING PROCESS

SARDAR JALAL BRAIM

MASTER THESIS

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MASTER'S THESIS

THESIS SUPERVISOR
ASSOC. PROF. DR. TURGUT TÜRSOY

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ACCEPTANCE

We as the jury members certify "The Role of Management Accounting in The Decision-Making Process**” prepared by Sardar Jalal Braim defended on … January 2020 has been found satisfactory for the award of degree of Master.**

JURY MEMBERS

……………………………….

Assoc. Prof. Dr. TURGUT TÜRSOY (Supervisor)

Near East University

Faculty of Economics and Administrative / Department of Banking and Finance

……………………………….

Dr. Ahmed Samour

Near East University

Faculty of Economics and Administrative / Department of Banking and Finance

……………………………….

Assist. Prof. Dr. Behiye TÜZEL ÇAVUŞOĞLU

Near East University

Faculty of Economics and Administrative / Department of Economics

……………………………….

Prof. Dr. Mustafa Sağsan

Graduate School of Social Sciences

Director

DECLARATION

I Sardar Jalal Braim, hereby declare that this dissertation entitled "The Role of Management Accounting In The Decision-Making Process" has been prepared myself under the guidance and supervision of **“Assoc. Prof. Dr. Turgut Türsoy.”** in partial fulfilment of The Near East University, Graduate School of Social Sciences regulations and does not to the best of my knowledge breach any Law of Copyrights and has been tested for plagiarism and a copy of the result can be found in the Thesis.

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DEDICATION

This study is dedicated to my parents who have been a strong pillar in my life. Deepest appreciation also goes to my brothers and sisters who have proved to be a huge source of inspiration throughout the undertaking of this study.

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ABSTRACT

THE ROLE OF MANAGEMENT ACCOUNTING IN THE DECISION-MAKING PROCESS

The study examines the roles of management accounting in the decision making of telecommunications company. The study also examines ways that can be used to enhance the effective use of management accounting information in making decisions by telecommunications companies. It is highlighted that one of the key issues surrounding the use of management accounting in decision making revolves around the idea that it centres on the financial aspects of the firm. This has been causing companies not to place important consideration on management accounting aspects of collecting information, process and communicating information, and preparation of quality reports. Such an issue has been prevalent in the telecommunications companies. As a result, an ordinary least squares regression model was estimated to determine the role of management accounting in telecommunications companies. This was done using data collected from 120 employees drawn from Korek Telecommunications Company. The results from the study showed that the use of management accounting to collect and communicating information enhances the decision making of telecommunications companies. The results also showed that using management accounting to process information and produce quality reports has adverse effects on the decision making of telecommunications companies. The results of the study implied that management accounting only plays a positive role in decision making on the condition that it does not increase the time needed to make decisions.

Keywords: Collecting Information, Communicating Information, Decision Making, Management Accounting, Process Information, Quality Reports.

ŐZ

THE ROLE OF MANAGEMENT ACCOUNTING IN THE DECISION-MAKING PROCESS

telekomünikasyon şirketlerinin karar vermede yönetim muhasebesinin rollerini incelemektedir. Çalışma aynı zamanda telekomünikasyon şirketlerinin kararlarında yönetim muhasebesi bilgilerinin etkin kullanımını artırmak için kullanılabilecek yolları da inceliyor. Karar vermede yönetim muhasebesinin kullanımını çevreleyen kilit konulardan birinin, firmanın finansal yönleri üzerinde odaklandığı fikri etrafında dönmektedir. Bu, şirketlerin bilgi toplama, işleme ve bilgi aktarma ve kalite raporları hazırlama yönetim muhasebesi yönlerini dikkate almamalarına neden olmaktadır. Böyle bir konu telekomünikasyon şirketlerinde yaygındır. Sonuç olarak, telekomünikasyon şirketlerinde yönetim muhasebesinin rolünü belirlemek için en küçük kareler regresyon modelinin hesaplandığı tahmin edilmiştir. Bu, Korek Telekomünikasyon Şirketinden alınan 120 çalışandan toplanan veriler kullanılarak yapıldı. Araştırmadan elde edilen sonuçlar, bilgi toplamak ve iletmek için yönetim muhasebesi kullanımının telekomünikasyon şirketlerinin karar vermesini artırdığını göstermiştir. Sonuçlar ayrıca, bilgileri işlemek ve kalite raporları üretmek için yönetim muhasebesinin kullanılmasının telekomünikasyon şirketlerinin karar verme süreçlerini olumsuz etkilediğini göstermiştir. Çalışmanın sonuçları, yönetim muhasebesinin, karar vermek için gereken süreyi artırmaması koşuluyla, karar vermede sadece olumlu bir rol oynadığını ima etmektedir

Anahtar Kelimeler: BilgiToplama, Bilgi Aktarma, Karar Verme, Yönetim Muhasebesi, Süreç Bilgileri, Kalite Raporları.

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ABBREVIATIONS

ABC	Activity Based Costing
CI	Collecting Information
CIMA	Chartered Institute of Management Accounting
COMI	Communicating information
IFA	International Federation of Accountants
IMA	Institute of Management Accountants
OLS	Ordinary Least Squares
PI	Processing information
QMAR	Quality of management accounting reports
SPSS	Statistical Package for Social Sciences

INTRODUCTION

Accounting is one of the key pillars of an organisation be it in the private or public sector. The importance of accounting is attached to a number of aspects and uses, and there are various ideas which contends that it is vital for a lot of reasons. For instance, Azadnia, Saman and Wong (2015) consider that accounting provides certain kind of information that is needed to make rational business decisions. Abubakar et al. (2017) highlighted that more detailed information about business operations and status is easily revealed through the use of accounting information. However, accounting information is composed of several different types of information ranging from costing to managerial accounting. Much of the attention is increasingly being devoted to the study of managerial accounting (Azudin & Mansor, 2018; Boučková, 2015; Chia, 1995; Dávila, 2019).

Meanwhile, there is a strong positive interaction that exist between the use of accounting information and decision making (Ada & Ghaffarzadeh, 2015). This is because the quality of decisions made by firms relies on the nature and quality of information available. Such information provides a detailed description of activities that have taken place in the organisation. This also includes the operational capacity and financial position of the firm (Bobrysev et al., 2015). This is important especially on the condition that the level of competition being faced by firms in contemporary business situations has greatly evolved (Boučková, 2015). This puts firms under great pressure to make good decisions that will help to sustain operations and deal with competitive pressure. This is mostly true especially in the telecommunications and financial sectors around the world (Bromwich & Scapens, 2016). In Northern Iraq, the telecommunications industry plays a vital role of sustaining economic and financial development and growth. Thus, the quality of decisions made by firms is important not only for sustaining operations but for providing other benefits that are pivotal for social and economic development. This shows how important for firms to have the necessary kind and quality of information so as to make rational decisions.

However, different managerial accounting principles can effectively apply in certain circumstances and fail to hold in other circumstances. Hence, it is always important to examine the implications of economic or business circumstances in any economic context such as Northern Iraq. Consequently, this study is linked to the examination of the roles of management accounting in decision making with special focus on telecommunication companies in Northern Iraq.

It is important to note that the decision making is one of the most important aspect of a business organisation. The importance of decision making is attached to a number of key aspects. For instance, Butterfield (2016) contends that decision making enables the organisation to achieve its goals.

To be specific linked the importance of decision making with the ability to attain and enhance sound performance. In another study by Garrison et al., (2010), it was established that decision making enables the firm to counter the effects of competitive pressure and thus enabling the firm to survive. It is undeniable that the importance of decision making is evident in a number of areas such as increasing market share (Socea, 2012), for growth purposes (Hilton & Platt, 2013), maximising shareholder value (Horngren et al., 2010) etc.

Meanwhile, the importance of decision making cannot be undermined in any circumstance. That is, decision making is vital for any organisation whether small or large firm, private or public companies. One of the key areas that is taking toll in decision making is in the telecommunications industry. This is because the telecommunications industry is necessitating a lot of positive developments in a number of areas (Hilton & Platt, 2013).

Such areas include the financial sector which has service such as ebanking being developed. This development of ebanking also stirred the development and growth of shopping. These notable developments and other positive contributions of the telecommunications reinforce the importance of decisions that have been made by telecommunications companies. As result, it is worthy to note that decision making is vital for the development of new and better goods and services.

On the other hand, the major challenge that has been undermining the development and growth of the telecommunications industry is high and rising operational costs. It is presumed that operational costs incurred by telecommunications can consume more than 20% of the earned revenue (Nekrasova, Leventsov & Axionova, 2015).

If such costs are not controlled or kept within reasonable limits, then the development of innovative products and services will be restricted. Studies have been placed towards examining ways that can be used to curb the high rising operational costs (Garrison et al., 2010; Hilton & Platt, 2013). One of the most widely advocated solution involves the use of management accounting (Butterfiled, 2016).

However, little has been done to examine the role of management accounting in decision making. This study therefore seeks to examine the roles of management accounting in decision making with regards to telecommunications companies.

Overview of the telecommunications industry in Northern Iraq

In 2019 Iraq is generally considered to be showing signs of tentative civil stability and efforts to rebuild and restore Iraq are largely underway and it is hoped that regional tensions will not undermine this progress (Budde Comm, n.d). From a telecoms industry perspective, these signs of stability allow for the mobile and fixed sectors to again rebuild and restore services.

If the situation can be maintained, then the largely populated Iraqi market offers substantial opportunities for future telecoms growth.There are three major operators in the mobile sector, including Zain Iraq, Asiacell and Korek Telecom, which is currently experiencing an ownership dispute (Iraq Directory, n.d). These operators can potentially take advantage of developments relating to mobile infrastructure, with signs the operators are preparing their mobile networks for 4G and even 5G technologies.In recent years, the operators have been focusing on restoration work with their focus directed towards fixing and replacing networks which had been damaged or destroyed by civil war (Budde Comm, n.d). These restoration efforts have partly led to a growth in mobile data usage and rising mobile data revenue. Fixed broadband networks are in deployment and repair work is underway to fixed damaged fibre-optic cables.

Research problem

One of the key issues surrounding the use of management accounting in decision making revolves around the idea that it centres on the financial aspects of the firm (Chia, 1995; Socea, 2012). This entails that management accounting specifically focus of controlling measurable financial aspects of the company. Therefore, the major problem is that it restricts the use of management accounting to measurable financial aspects of the company.

Hence, making it difficult to apply the concept of management accounting in decision making. However, a notable number of studies have reaffirmed the idea that management accounting can be applied in any sector or industry such as the telecommunications industry (Horngre et al., 2010; Wall & Greiling, 2011). The second problem is therefore linked to the idea that the role of management accounting has not yet been fully explored with regards to telecommunications companies. It is, therefore, not clear as to whether management accounting will continue to play the same roles of collecting, process and providing quality information.

Research objectives

The main objective of the study is to examine the roles of management accounting in the decision making of telecommunications companies. The study also seeks to attain the following objectives;

- To determine the usefulness of management accounting information in the decision-making process of telecommunications companies.

- To examine ways that can be used to enhance the effective use of management accounting information in making decisions by telecommunications companies

Research questions

Given the above-mentioned objectives, the study therefore seeks to provide answers to the following questions;

- What are the roles of management accounting in the decision making of telecommunications companies?
- What is the usefulness of management accounting information in the decision-making process of telecommunications companies?
- What can be used to enhance the effective use of management accounting information in making decisions by telecommunications companies?

Significance of the study

As noted in the aforementioned section, the use of management accounting helps to lower operational costs incurred by telecommunications companies. Thus, by undertaking this study, improved ways can be introduced to regulate operational costs incurred by telecommunications companies. As a result, more funds can be devoted towards other important activities.

This will result in the development of more and improved telecommunications products and services. This study will also help to highlight the critical importance of management accounting with respect to decision making and the attainment of organisational goals. Thus, helping to strengthen efforts to boost financial development, economic growth and development through improvements in telecommunications. In addition, this study is one of the few studies that addresses similar concern. Moreover, studies have barely examined the roles of management accounting and decision making with respect to the telecommunications companies in the middle east region. Thus, this study adds to existing knowledge on the study of the roles of management accounting in the decision making of telecommunications companies.

Organisation of the study

The study is organised into five chapters. The structure of the study is as follows;

- Chapter one: Literature review.
- Chapter two: Research methodology.
- Chapter three: Data analysis and presentation.
- Chapter four: Conclusions and recommendation and suggestions for future study.

CHAPTER 1

LITERATURE REVIEW

1.1 Introduction

This chapter places focusing on reviewing detailed insights about the underlying study concepts together with the theoretical underpinnings. The chapter also analyses related literature.

1.2 Meaning of management accounting

Defining terms has been and still continues to be a major issue in research. This is mainly because there are various ways of defining words and concepts. As such, similar problems can be encountered with respect to the concept of management accounting (Scapens, 1991).

Scapens contends that there are certain definitions that are too broad and do not offer an appropriate description of the underlying matter. One of the reasons is that concepts and/or ideas are always subject to change in responses to changes in dynamic situations (Azudin & Mansor, 2018).

- Basically, management accounting is defined as the process through which financial information is obtained, measured, analysed, prepared, interpreted and passed by managers so as to assist in the planning, evaluation and controlling of organisational activities in a manner that enhances the use of organisational resources (Institute of Management Accountants (IMA), IMA, 1981, p. 1).

- On the other hand, management accounting is also defined as an organisational strategy that is aimed at enhancing organisational value by improving the use of organisational resources by dealing with competitive and dynamic organisational situations (Chartered Institute of Management Accounting (CIMA), 2005).

Irrespective of the definition one may opt to use, the basic concept that can be deduced from the two definitions is that management accounting plays a key role is the management of organisational resources. The context under which decisions are made by an organisation always change. Thus, management accounting can be a chief tool which organisations can use to deal with organisational, market and environmental change. Apart from this, the importance of management accounting is attached to the effective and efficient use of organisational resources (Hoozée & Mitchell, 2018).

A detailed and more descriptive examination of the concept of management accounting can initially be made by looking at its prime focus and importance. Foremost, Martin et al. (2015) reckon that the main emphasis of management accounting is to furnish businesses with information. Such information can be used by managers at any level of the organisation. The need for information is based on the argument that organisational efficiency is enhanced on the premise of good information provided through management account (Litvaj & Stancekova, (2015). Hence, the prime aim of management accounting can thus be said to furnish managers with information needed to boost organisational efficiency. However, the idea is not just in the provision of information because the information also needs to be presented in a manner that makes it feasible and swift for managers to make decisions. This is because such information needs to be reviewed and presented to managers, shareholders and other stakeholders so as to make decisions that govern the success of the organisation.

Secondly, a study by Li (2017) established that management accounting is important because it facilitates the analysis of causes and effects between two or more variables. That is, to depict the relationship between two or more corporate variables and how such variables affect each other. Though the profit and loss often provide information or details about the operational activities of the business, it does not give a good indication of which business variables or outcomes had an effect on the other variables. As a result, the use of management accounting allows business to build models and methods that can be used to depict and analyse such relationships.

Hosomi, Scarbrough and Ueno (2017) established that accounting information can sometimes fail to give detailed information when presented in an ordinary form. Hence, management accounting enables firms to obtain the necessary details and insights by using special concepts and techniques. Examples of such methods include control accounting, project appraisal, marginal costing, budgetary control, standard costing, and financial planning and analyses.

Hilton and Platt (2013) reiterated that the use and importance of management accounting in business can never be detached from decision making. This implies that there is an inseparable positive bond that between the roles of management accounting and decision making. Meani9ng that business decisions are based on the availability and use of management accounting systems.

Granlund, and Lukka (2017) noted that the difference between management accounting and ordinary accounting information is highly evident though both are based on the use of relatively similar information. As a result, management accounting can be said to lack fixed norms when being used to analyse financial information. However, differences in application and results obtained will always be different between the two. This is because the effective use of management accounting relies significantly on the concern as well as the skills and qualification of the management accountant involved.

Garrisson et al. (2010) managed to establish that management accounting is vital for forecasting which is another important because activity. This is because the importance of forecasting is highly evident around the world as companies are increasingly being faced by significant levels of competition (Dávila, 2019). Thus, the ability to handle such competitive pressure requires firms to be in a good position to use the various types of forecasting tools that are availed through management accounting.

Irrespective of the existence of positive gains or attributes of management accounting in business, it also suffers from a given outline of limitations. For instance, a study by Butterfield (2016) highlighted that the main challenge is that management accounting is the problem of lack of accounting records. Meaning that the results of management accounting examinations and analysis will remain reliable and high on the verge that the records remain totally accurate. Thus, incorrect records can cause the entire management accounting process to produce inaccurate reports.

Moreover, management still plays an important role in business organisation irrespective of the fact that it is used for making decisions in business. Thus, management accounting can be said to be a tool that is used to manage businesses in different parts of the country or sectors of the economy.

On the other hand, it is also important to note that management accounting is just an instrument which is used to make decisions. The final decision rests with managers who are entitled to make decisions and hence can be said not to be a replacement of management (Martin et al., 2015). Moreover, there are other costs that are tied to the adoption and implementation of management accounting practices. Such costs can prove to be expensive and can offset the gains made by the company (Chan, 2002). Azudin and Mansor (2018) highlighted that management accounting is bound to suffer from biases which can affect the reliability of processed information. There are also concerns suggesting that management accounting is characterised by psychological resistance (Phadoongsitthi, 2003). This is the adoption of management accounting requires that new systems and procedures be implemented. Of which employees may not be comfortable with the implementation of new changes and hence can be resentful most of the times.

1.3 The role and development of management accounting

The role of management accounting has of late being restricted to measuring the amount of resources used by the organisation (Laine et al., 2017). Williams also contends that management accounting was also designed to manage organisational resources. All these two roles of management accounting were specifically designed in such a way that organisations would benefit through improved productivity.

This was accompanied by measures put in place to enhance efficiency as other significant roles of management accounting (Bobryshev et al., 2015). The development of management accounting was mainly necessitated by the need to improve internal activities and process in a way that contributed towards enhancing organisational performance. Hence, management accounting was specifically focused on the use of accounting information in such a way that changes input organisation, resource consumption and production output.

Meanwhile, there are other ideas which suggest that management accounting involves the uses financial and non-financial information by managers to make important decisions (Maas, Schaltegger, & Crutzen, 2016). Hence, managers can be said to rely a lot on management accounting to make ration al decisions. This shows that there is a strong link between management accounting and decision making. This relationship has of long being said to exist as both the formulation of business strategies is believed to be based on the availability of processed information (Granlund & Lukka, 2017). Ideas by Zhang and MinSi (2017) also suggest that management account ting is involved in a lot of organisational activities. This means that management account t is a broad subject that covers and influence a number of organisational activities and process.

The role of management accounting can also be traced to the use of management accounting to develop and evaluate strategies (Zyznarska-Dworczak, 2018). In other words, organisational strategies are developed and evaluated using information provided by organisational managers. Such strategies are either market development, growth, survival or sustainability.

Not only does management accounting assist in decision making but they also help in implementing and evaluating decisions made. This is because management accounting sets standards which managers and other employees are encouraged to attain or surpass.

In order for management accounting to fulfil its purposes, it must be structured in a systematically arranged or predetermined way. For instance, the International Federation of Accountants (IFAC) contends that a customer-based and internal views of management accounting be used to structure management accounting activities (IFAC, 1998).

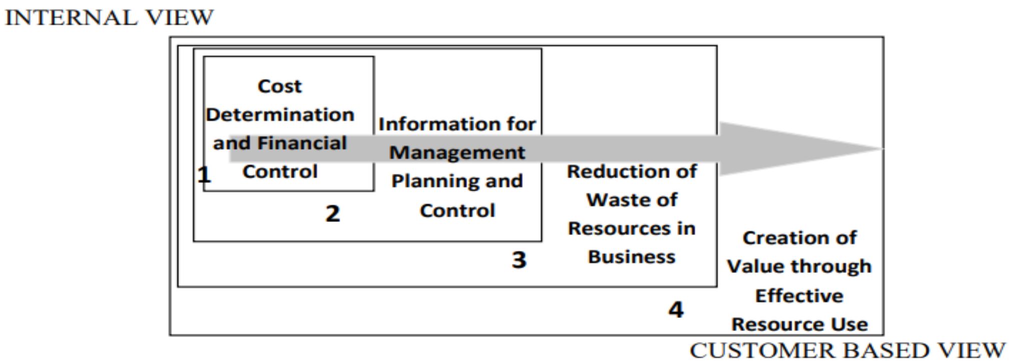

Figure 1: The four phases of evolution of management accounting

Source: International Federation of Accountants (1998)

The customer-based view considers that management accounting activities can be structured into four different processes or stages and these stages are value creation, waste reduction, planning and control of information, and cost determination. Ideas by Ratnatunga, Balachandran and Tse (2017) also showed considerable support towards this view.

That is, firms are in a much better position to make well informed decisions which maximises the value of the firm when given a chance to reduce wastage of resources. On the other hand, Nitzl (2016) recommends that other approaches be used in situations where other similar methods have proved to be ineffective. These approaches include the so called the Sino-Japanese approach. The Sino-Japanese approach focused on four stages of the evolution of management accounting (drafting, traditional, quantitative and integrative management accounting). These stages were relatively different from those established by the IFCA which were listed as follows (IFAC, 1998);

- ***Stage 1:*** The stage was entirely based on the need to determine the costs incurred by the firm. This was done so as to exercise financial control of the firm's financial expenditure (Ratnatunga, Balachandran & Tse, 2017). Thus, this stage relied on the information obtained from the company's financial statements and included the use of techniques such as financial statement analysis and ration analysis.
- ***Stage 2***: This the stage became prominent during the year of 1965 and during this stage, firms were much more concerned about shifting their focus from merely collecting information but rather on the use of such information to make decisions Boučková, 2015). Thus, this stage can be known as the decision-making stage of management accounting.

  Thus, the use of well-advanced information systems such as decision analysis were mainly used to support the decision-making process. Hence, the use of Break-Even Analysis, Cost-Volume-Profit, and standard costing is presumed to improve the use of management accounting among firms.

- ***Stage 3:*** This period was marked with significant improvements which saw major changes being made with regards to the focus of management accounting (Drury, 2000). That is, the newly introduced changes focused more on waste reduction as opposed to the use of information to make decisions.

  The argument was that management accounting is more effective when used to minimise wastages of resources as noted by Zhang and MinSi (2017). A study by Horngren et al. (2002) recommended that management accounting be combined in use with production and investor management strategies such as LIFO, FIFO and economic order quantity so as to reduce waste. The use of data analysis methods such as a regression analysis was also established to play an important role of data analysis and policy formulation.

- ***Stage 4:*** This was the final stage of the developmental phase of management accounting and started taking effect after 1995. The main goal was to create value in such a way that organisations will benefit from effective use of resources (Maas, Schaltegger & Crutzen, 2016). Technology was also integrated in the analysis stage and as a way of enhancing organisational innovation and customer value. This is the state at which Strategic Management Accounting, Balanced Score Card and Just-in-Time (JIT),

Major revisions were made with regards to the definition of management accounting and began to encompass efforts to considerably consider the use of resources. As a result, the proposed new definition began to include objectives relate to the efficient maximisation of resources (IFAC, 1998). Organisations were thus encouraged by the IFAC to adopt this definition with a goal of adding value to their operations in competitive and dynamic environments.

A study by Laine et al. (2017) highlighted that changes in the internal and external environment of the firm imply that management accounting will not effectively function as intended. This implied that organisational accounting will be in a position to replace management accounting which will be confined to a concept. In addition, inter organizational commitments, other broader ideas and accounting methods can easily be integrated into the new form of accounting (Nitzl, 2016).

1.4 Management accounting and the management process

One of the key areas that is strongly attached or connected to management accounting is management in its broad sense. Though management is general and management accounting is specific, they both share common management aspects. Management is defined as a way of achieving organisational goals through people (Otley, 2016).

The achievement of goals requires that managers develop strategic measures that will highlight specific details on how such goals are to be attained. On the other hand, management accounting involves the use of financial or accounting information to manage people and resources in an effective way that will help the company achieve its goals.

Management accounting can thus relate with management process as employees' activities, organisational structure, common values and goals are realigned together to deal with organisational changes (Azudin & Mansor, 2018). Thus, management can be said to be composed of the following features;

- Using controls that will assist the organisations to accomplish the stated goals.
- Making sure that employees are well committed towards making sure that the organisation achieves it goals.

Management accounting can also be defined as an essential part of the management that is done so as to make sure that the resources of an organisation are being put to effective use:

- Continuing surviving and achieving goals by using appropriate strategies,
- Establishing strategy mixes that support organizational objectives;
- Making sure that the organisation has the desired organizational capabilities and strategies to realise the stated goals.
- Negotiating the strategy and capability change necessary to secure ongoing organizational success and survival (Trucco, 2015).

However, it is important to note that management accounting can be said to focus on ensuring that the organisation functions proactively and responding creatively (Richardson, 2017). This is done so as to aid in dealing with changes affecting the organisation and maintaining high organisational value. This move usually requires that the management functions be assessed in terms of effectiveness and efficiency.

1.5 Management accounting practice in developing counties

The use of management accounting has been spreading across developing countries and this dates back to the early 80s. For instance, Ghosh (1982) conducted a study of the use of management accounting by large companies in Singapore. The study provided proof of the use of management accounting by large firms.

However, it showed that there are differences in preferences over the use of management accounting with respect to standard costing, return on investment and capital budgeting. Evidence collected from this study showed that the use of management accounting varies across developing countries mainly as a result of differences in organisational activities.

Subsequent studies that followed such as the one by Ghosh and Chan (1997) highlighted that the adoption of management accounting continued to vary with further improvements and enhancement of organisational activities. Such is in support of the idea that the use and importance of management accounting varies according to the organisation, its activities and industry. In addition, changes in time and dynamics of both the market and economic environment are also some of the major factors that give rise to such differences.

In another study conducted by Chan (2002) which was meant to identify if possible, changes and/or improvements in management accounting influenced its adoption. Initial findings revealed that there were insignificant changes that were made to management accounting. As a result, its use among developing countries was not widely affected.

On the other hand, the use of management accounting among developing countries was presumed to part of an innovative drive by firms. The study also revealed that most firms were reluctant to use management accounting practices mainly because of too much complexities that surround its use. Increase in costs as a result of the adoption of management accounting was also established as a major factor that hindered the use of management accounting. During that, the use of management accounting was being considered as using too much resources to an extent that firms considered it as irrational. This therefore imply that telecommunications companies are more likely to shun away from the use of management accounting given that they face similar challenges.

Phadoongsitthi (2003) also conducted a relatively study based on ideas collected from manufacturing companies in India and Singapore. The findings provided great support of the idea that the use of management accounting across industries. As such, manufacturing companies in Singapore were noted to be using more of management accounting towards performance evaluation, planning and budgeting. However, it was noted that firms in both countries were highly reluctant to adopt modern management accounting methods.

The reasons were established to be as a result of increased costs, complexities and time. Thus, we can expect such effects to hinder the use of management accounting. On the hand, the use of management accounting to collect and process financial information was noted to be of considerable importance.

There are also studies which examine relative changes in the use of management accounting in developing countries. For instance, a study conducted by Waweru et al. (2004) examined the use of management accounting among four African retail companies. The study first highlighted that there were notable improvements in the use of management accounting by firms. As such, the use of modern accounting methods such as the balanced scorecard and ABC were considered to be on the increase among African countries.

1.6 Management decision making process

Decision making is one of the pivotal aspects of a business and managers are tasked with a mandate to make well informed decisions. Azadnia, Saman and Wong (2015) established that firms that are able to make good decisions are in a position to take advantage of market opportunities. The key issue in decision making is considered to be time (Yang & Gabrielsson, 2017) but there are other ideas which consider effectiveness as a key issue on which decision making should be based (Ada & Ghaffarzadeh, 2015; Litvaj & Stancekova, 2015). Some studies strongly emphasise on efficient decision-making processes (Martin et al., 2015).

Whichever way a firm chooses, it should at the end be in a position to make rational decisions that contributes to improvements in its performance, growth and survival. All these ideas can be connected to the roles of management account ting in decision making. We can thus contend that the use of management accounting is meant to improve the decision making with respect to time, quality, cost and performance.

All these aspects will then contribute towards strengthen a firm's position in the market and thus allowing it to growth and counter competitive pressure. Though management accounting plays important roles in decision making, it must be in a position to provide firms with accurate and reliable information. Further details revealed by Azudin and Mansor (2018) showed that management accounting should conform to the following characteristics if firms are to benefit from its use;

- **Reliability:** This entails that the information should not be bias and contain any form of an error or bias. Thus, the information should provide an and accurately description of a firm's organizational activities and transactions.
- **Completeness:** No omissions are permitted to be inherent in the Information provided management accounting. That is, all the business' activities should be recorded at all cost.
- **Timeous:** Decision makers should be provided with the required information at the right time so that they can be able to make quick decisions.
- **Understandable:** The information provided should be easy to understand and this requires also that the way the information is presented be clear and easy to understand.

- **Verifiable:** Preparers and users of information provided through the use of management accounting practices should be able to verify of the source and originality of the information obtained.

McLean, McGovern and Davie (2015) pointed out that decision making involves a mental examination of ideas and a resort to adopt a particular course of action. This entails that decision making has an outcome which can be called a final choice as firms chose between two or more alternatives.

Li (2017) defined decision making as a process through which a firm or an individual chooses a selected course of action from two or more alternatives or course of actions. In business, the basic idea is that good decisions are those that minimise costs and maximise revenue (Yang & Gabrielsson, 2017).

Decision making is done on a daily, weekly, monthly if not on an annual basis. There are always alternatives that managers will have to choose from and this means that they have to choose the best alternative. Failure to do so can imply that they organisation will be affected time wise, financially, competitively or in any other form (Ada & Ghaffarzadeh, 2015).

The use of management accounting to make decisions can be illustrated using Drury's model. The model contends that decision making is done in seven consecutive stages (Litvaj & Stancekova, 2015). However, the first five stages are considered to be aspects of decision-making process. This is because they posit that the decision-making process is conducted based on the planning process through which the firm uses to choose the best alternative or course of action.

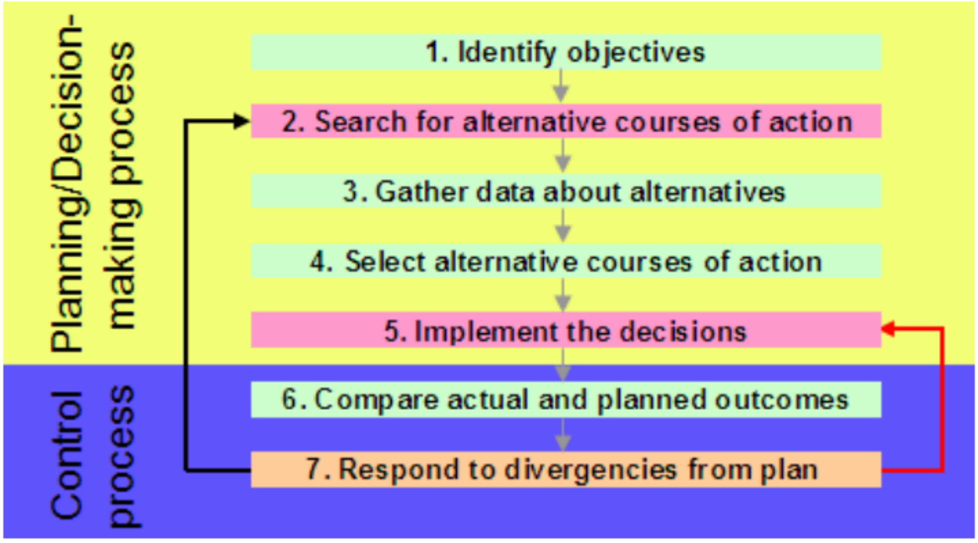

Figure 2: Management decision making process model.

Source: Drury (2005)

Planning Process

- **1. Identify objectives:** This is the initial step of the decision-making process and the firms first engages in what is called planning process management (Martin et al., 2015). At this stage, the firm will focus on identifying its objectives and goals which its uses as a source of guidance. This is also important because it can be used as tool which firms examine the importance and/or effectiveness of a particular course of action. Usually value maximisation is considered to be the prime goal of shareholders while profit maximisation is deemed to be the main objective of organisational managers (Bui & De Villiers, 2017).
- **2. Search for alternative courses of action:** Outlining the best possible ways or course of actions which managers can undertake requires managers to choose the best alternatives. This involves the use of a number of strategic management tools and practices such as competitive, environmental, SWOT analysis etc. This stage consumes a lot of time and often proves to be difficult but can offer huge positive rewards when effectively executed (Bromwich & Scapens, 2016).

- **3. Gather data about alternatives:** Soon as the best alternatives have been selected, managers need to collect information (first role of management accounting). Such information can pertain to cash flows, market share, growth rates etc. This also takes into consideration of the possible risks posed by things such as competition, inflation, business cycles etc., that the organisation may face in the course of adopting such a form of action. The data analysis (information processing-second role of management accounting) is done for both operating decisions (short-term) and strategic decisions (long-term).
- **4. Select appropriate alternative courses of action:** Bui & De Villiers, 2017) highlighted that fulfilling the above four phases qualifies the firm to choose the best alternative that effectively meets the set goals or objectives. The selected alternative is what decision makers will reference to when making decisions. This is also important because it becomes part and parcel of the decision-making process.
- **5. Implementation of the decision:** the selection of the best course of action and/or objective means that managers make effort to implement such an action (Lin, 2017). In management account ting, the implementation of objectives such as profit maximisation is executed using budgeting process (Azadnia, Saman & Wong, 2015). In addition, it also provides an indication with regards to clarity as to what roles other organisational members will play towards the attainment of the set goals.

Control process

- **6. Compare actual and planned outcomes:** The control stage is divided into two set of course of actions. The first step which is the sixth stage involves the organisation comparing actual outcomes with set (Lin 2017). Any discrepancies that would have been identified will require that managers take the necessary corrective actions. Of which, it requires that the causes of such deviations be first identified and future measures be put in place to curb such deviations, causes and effects.

- **7. Responding to divergences from plan:** This is the final stage of the decision making and is stems from the sixth stage (Ada & Ghaffarzadeh, 2015). Managers will use information established in the sixth stage to find solutions as to how best they can deal with divergencies that have been established. This includes making frequent periodic reviews and performance appraisals.

This model offers good insights about the roles of management account ting in decision making.as such, it can be seen that management accounting is important for collecting, process and communicating information. In addition, the communication information will be in the form of published interim or annual reports.

However, Drury’s model suffers from a series of issues which include failure to account for the decision-makers’ mindset, culture, memories, imagination and emotions. Also, it is not easy to make the right and effective decisions as contended by the theory. Some decisions are ambiguous and can take time to make. Moreover, not all decision-making processes can be divided into steps as assumed by the theory.

1.7 Decision making and management accounting

According to Otley (2016), there is a strong positive association between management accounting and decision making. This entails that management accounting aids firms in making important business decisions. Otley further highlighted that one of the key decisions that businesses make using management accounting is maintaining a competitive position.

In addition, management accounting has been well known for assisting firms to create cultural values, supporting organisational activities, motivating behaviours and guiding managerial action (Richardson, 2017). But much of the attention behind the use of management accounting is focused on dealing with the internal needs of management.

There are other ideas which suggest that the importance of management accounting is strictly centred on the provision of information (Dávila, 2019;

Richardson, 2017; Trucco, 2015). In order for managers to make decisions, they require information and one of the best ways of obtaining such information is through management accounting.

Such information ranges from acquisitions (finance), risk analysis (investment), integration (strategic management), product pricing (marketing) etc. Managers will acquire information that is relevant to their decisions and such information is often made available by management accountants.

Ideas provided by Hosomi, Scarbrough and Ueno (2017) showed that management accounting assists in the collection, processing and dissemination of information to assist in the decision making. Furthermore, the use of management accounting allows firms to customise their operational standards in line with prescribed standards (Trucco, 2015).

This is because management accounting follows a give set of prescribed international accounting standards. Hence, the business' activities and performance can be compared with those of other firms especially international companies.

Richardson (2017), established that strategic decisions made by managers are based on information provided by management accountants. This information can be broken down into various aspects or groups and thus making easy it to delegate responsibilities to managers. That is, the information can be broken down into production, sales, marketing, batch etc. This will make it feasible for each manager to focus on a specific department or organisational activity. As a result, performance evaluation and measurement can be specifically executed based on each department or activity. In addition, it becomes relatively easy to control organisational activities and realign each activity in line with the given organisational goals.

It is on the other hand important to note that managers are not only restricted to quantitative information. They also make decisions based on unquantifiable information which can be qualitative information (Trucco, 2015). This is why it important for managers to put into consideration of a quite a number of factors. This can be supported by ideas established by Drury (2000) which showed that things such as self-aggrandizement, power struggles, turf wars, trivial reasons, moral conviction, intuition and experience when making decisions.

Hence, effective decisions can be said to be those decisions that incorporate the quantitative and qualitative aspects of information. Furthermore, decisions are made on different types frames which can either be long run or short run and such differences have important implications on the decision making.

For instance, short term decisions are usually based on the need to avoid problems caused by changes in the time value of money whilst long term decisions focus on other aspects such as survival and growth (Azudin & Mansor 2018). Whichever form of decisions firms choose to make or rely on, they must bear in mind that the decision made will have an impact on the firm's long-term operational capacity and effectiveness. Thus, time is an important aspect which firms must consider when making decisions and this is relatively true with regards to management accounting in telecommunications companies.

1.8 Empirical studies

Ghose and Chan (1997) conducted a study that was aimed at examining the effects behind the use of accounting methods on decisions made by companies in Singapore. The study findings highlighted that organisations around are increasingly using a number of management accounting methods, but much has not been achieved in terms of effectiveness.

This reveals that the effectiveness of management accounting especially in decision making is not restricted to the methods used but to the ways such methods are used. As a result, this often points to how information is collected, processed and communicated. The most being the quality of reports prepared for making final decisions. Hence, neglecting the effects of these aspects on decision making can prove to have undesired effects.

Chan (2002) also undertook a relatively similar study that was based on Singapore. The findings showed that management accounting is affected by the problem of dynamic changes in the environment and that organisations ought to consider such issues. Failure to do so can thus reduce the effectiveness of decisions made. In addition, such changes affect the way managers collect, process and communicate information. This can either be as a result of restructuring, innovation and other organisational changes that are made by a firm. This provides support on the need to focus on the way organisations collect, process and communicate information.

Wijeywardena and Zoysa (1999) did a study that compared the use of management accounting methods in Japan and Australia. The study involved the use of respective samples of 217 Japanese firms and 231 Australian firms. It was established that differences in the use of management accounting were inevitable mainly because of geographical, development and social differences.

This shows that the application of related studies to address the use of management accounting by telecommunications companies in Northern Iraq might not yield much. This therefore calls for further examination in this area. It was also noted that the differences in the use of management accounting were mainly attributed to cultural differences. The study was extended to include variables such as costing systems, performance evaluation and timing.

Integrating all these variables sums into a conceptual framework shown in figure 1.3. In addition, it was discovered that management was more effective at enhancing decisions made by Japanese firms. The reason being that managers of Japanese firms were highly specialised at making informed decisions that integrated structural and environmental effects on the use and effectiveness of management accounting.

Adler, Everett and Waldron (2000) examined the effects management accounting tools on manufacturing businesses in New Zealand. The study was against the idea that the effectiveness of management accounting be evaluated based on the use of a single management accounting technique. As a result, the adopted questionnaire was developed using a combination of various management accounting methods. The study was done using ideas collected from 165 companies.

The participants were required to provide their opinions about the use and importance of management accounting on a rating of one to five. The results initially revealed that there was a high usage of old management accounting methods as compared to new and innovative methods. Thus, the ineffectiveness of management accounting was blamed on failure to use innovative management accounting solutions and tools.

Such innovative methods and tools ought to be specifically centred on aspects of collecting, processing and communication information, and preparation of reports. These results reinforced the importance of having well developed and innovative systems that can aid the effective use of management accounting in organisations.

Anand et al. (2004) drew ideas from a group of 53 financial managers based in India. The study based its arguments on the notion that the provision of specialist management accounting information is mainly done to deal with specific issue affecting the organisations. With regards to that, the study focused on how activity-based costing (ABC) would contribute towards cost minimisation.

Information established from their study showed that managers are in a position to capture accurate information about the behaviour of the firm's profit and cost schedules. Ideas also pointed out that budgeting and benchmarking details were considerably lacking. This pointed out to the need to ensure that more information is collected through the use of management accounting.

As a result, it acknowledges the collection of information role of management accounting. Moreover, the findings also acknowledged that the use of different accounting methods will remain relatively effective if management accounting roles are well integrated into decision making.

Abdel-Kader and Luther (2006) drew ideas from an examination of the implications of management accounting in the beverage industry. In their study, Abdel-Kader and Luther argued that the implementation of management accounting is subject to a given number of factors. As a result, they considered that these factors ought to be given due priority is firms are to make well informed decisions.

These results were obtained from an analysis of 245 beverage employees in the United Kingdom. It was established that management accounting plays an important role in organisations. However, it was noted that all management accounting methods were important for organisations whether they have been used for performance enhancement or decision making. This provides evidenced that management accounting methods can be used for a number or purposes and its importance varies with the specific use to which they are put to.

Liaqat (2006) did a study that uses data collected from 63 individual companies which were using ABC. The goal was to examine how firms in India make a choice between the use of modern and traditional management accounting practices. The study showed that the decision to use both methods was mainly as a result of the need to regulate costs and improve the financial performance of the company.

However, the decision to choose between the two was mainly as a result of considerations that only one method is capable of achieving these goals effectively. Meaning, that moving from traditional to modern management accounting practices is believed to effectively contribute towards the effective regulation of costs and improvement in the financial performance of the company. The established conclusions also revealed that the amount of overhead costs, business size, competitive pressure and the degree of customization were key factors that influenced the use of ABC among Indian firms.

All these factors are embraced on the general idea that the collection, process and communication of information by firms is to target these specific attributes. Thus, use management accounting can play a vital role in organisations when there is an effective and efficient collection, process and communication of information.

Isa and Thye (2006) decomposed the effects of management accounting into account of overhead expenses, company size, level of competition, production process and product variety. This involved the examination of ideas provided by management accountants, general managers and chief executive officers, of 75 manufacturing firms in Malaysia.

The respondents were asked to rate their opinions of which management accounting methods they consider to be the best with respect to Kaizen Costing, ABC, and Target Costing. The study does not consider the importance of management accounting roles. This is because it is the effectiveness of management accounting roles on organisational aspects such as decision making.

Thus, if managers are to make important decisions, then they need to consider the roles of management accounting. This study therefore argues that the importance of either Kaizen Costing, ABC, and Target Costing is determined by the ability of management accounting to perform the roles. Recommendations revealed that managers ought to allocate more resources to more productive activities and this also requires support to be given by the managers. Management accounting proved to be effective in decision making when managers are provided with all the required resources.

Salawu et al., (2012) focused on the use of management accounting in Nigeria. Their study was based on the need to establish the reasons why firms opt to use contemporary management accounting methods as opposed to traditional methods. As such, it was highlighted that the inability of traditional accounting practices to provide accounting the desired cost information is what fosters the adoption of contemporary methods.

The results of this study do provide evidence that the role of management accounting in firms is to some extent not determined by the environment. More than 60% of the employees agreed that an increase in organisational activities causes firms to be in need of more information. Such information can be obtained using management account ting as it facilitates the collection of information.

It was further known that an increase in overhead costs and competition means that new information has to be collected, processed and reported using quality reports and standards. The findings therefore considered that more information can be collected, processed and communicated in a better way using contemporary management accounting methods. On the other hand, the study considered that the adoption and use of ABC costing can prove to be expensive and complex.

This therefore causes other firms to adopt and modern management accounting methods as opposed to others. This implies that modern management accounting methods must be capable of collecting, processing and communicating more information as opposed to traditional methods. Furthermore, companies can be presumed to gain more from the using management accounting.

Thus, the benefits of ABC costing and other modern management accounting methods are greater in the long run as opposed to the short run.

The findings were in support of the study made by Isa and Thye (2006) and highlighted that managerial support and the availability of resources are the key factors that stimulate effectiveness in the use of management accounting practices.

Recommendations revealed that managers ought to allocate more resources to more productive activities and this also requires support to be given by the managers.

Thanju (2009) did an assessment of factors that trigger the use of management accounting in Kenyan hospitals. Changes in the use of management accounting were considered to be as a result of environmental changes. The study based on the argument on the idea that there is a gap that needs to be filled with respect to the use of management accounting in the hotel industry. With regards to that, this study also considers that there is a gap that needs to be filled regarding the study of the roles of management accounting in the telecommunications industry.

In addition, the study argues that the use of management accounting is as a result of changes in the environment which in turn causes the development of new determinants. Further observations made from the study revealed that regulatory laws, board members, financial targets and changes in technology were the key determinants that influenced the use of management accounting.

But the prime cause behind the use of different management accounting practices pertained to the availability of resources. Meaning that organisations which have more resources are in a better position to use well advanced management accounting practices. On the other hand, it was discovered that failure to access strategic information, too much regulatory restrictions, lack of communication and qualified employees were the main hindrances to the use of modern and effective management accounting practices.

The findings were relatively different from those established by Isa and Thye (2006) and Salawu et al., (2012) in the sense that they emphasised on the importance of the availability of funds to implement the desired practices. Meaning lack of funds hinders the effective use of management accounting by firms.

Tewodros (2009) did a study that was based on the argument that management accounting can be used to effectively formulate decisions and regulate organisational activities. The basic idea was that management accounting can help collect important information. Such information is then processed and distributed to other managers who use to make rational decisions.

The decision-making process involves the controlling of costs and maximisation of revenue which in turn lead to profit maximisation. Moreover, it is contended in the same study that management accounting can also be used as part of performance evaluation strategies through which the performance of both employees and managers can be assessed.

Recommendations were also made that there are significant differences between firms that use management accounting and those that do not use it.

Therefore, it was concluded that firms that use management account ting are in a much better position to make informed decisions.

The findings revealed that the context under which management accounting is applied is more important. As a result, management account was established to be having huge positive effects on decision making of private sector companies. Meaning that management accounting does not always lead to improvement in decision making. Possible reasons can be lack of profit orientated goals among public sector companies. Such companies do not always have an incentive to make profits.

Mintesnot (2013) specifically focused on the role of management accounting in decision making by engineering companies. The study sough to establish how managers acquire information using management accounting (collection of information).

The argument was that managers that are effective in collecting information are well positioned to make good decisions that reduce costs and increase revenue earned (maximise profits). Thus, other roles of management accounting were presumed to be determined by the ability of the form to collect better and more information using fewer resources and at a relatively lower cost.

Other than that, the study however argues that management accounting has its own specific strengths and weaknesses. Suggestions were made and showed that managers should put effective measures that are designed to ease the effects of such weaknesses and this requires that the existing roles of management accounting be enhanced. As such, it requires that more effort be put with regards to improving the collection, process and communication of information as well as preparation of financial reports using management accounting.

1.9 Conceptual Framework

Decision making has been established to be a key element if success in business and the extent to which managers can make rational decisions affects numerous aspects (Yeshmin & Hossan, 2011). Drury (2000) contends that an organisation’s long-term plans are influenced by the effectiveness of decisions made by the organisations. Horngren et al. (2002) highlighted that survival and growth aspects of the company are effective when they are founded on the basis of good and ration al decisions.

Thus, relating the use of management accounting to decision making in this study plays a vital role in determining the effectiveness of decisions made by telecommunications companies. This affects both short- and long-term decisions ranging from capital investment decisions to equity management.

However, the roles of management accounting are mainly related to the collection (Ed, 2000), processing (Alqashi, 2003), communication (Reyes, Rodrigues & Dolado, 2007) of information as well as on the quality reports prepared by the managers (Hematfar et al., 2010). This therefore entails that the roles of management accounting must be examined in relation to these four aspects. Thus, this study developed the following conceptual framework to examine the roles of management accounting in decision making using ideas collected from telecommunications companies.

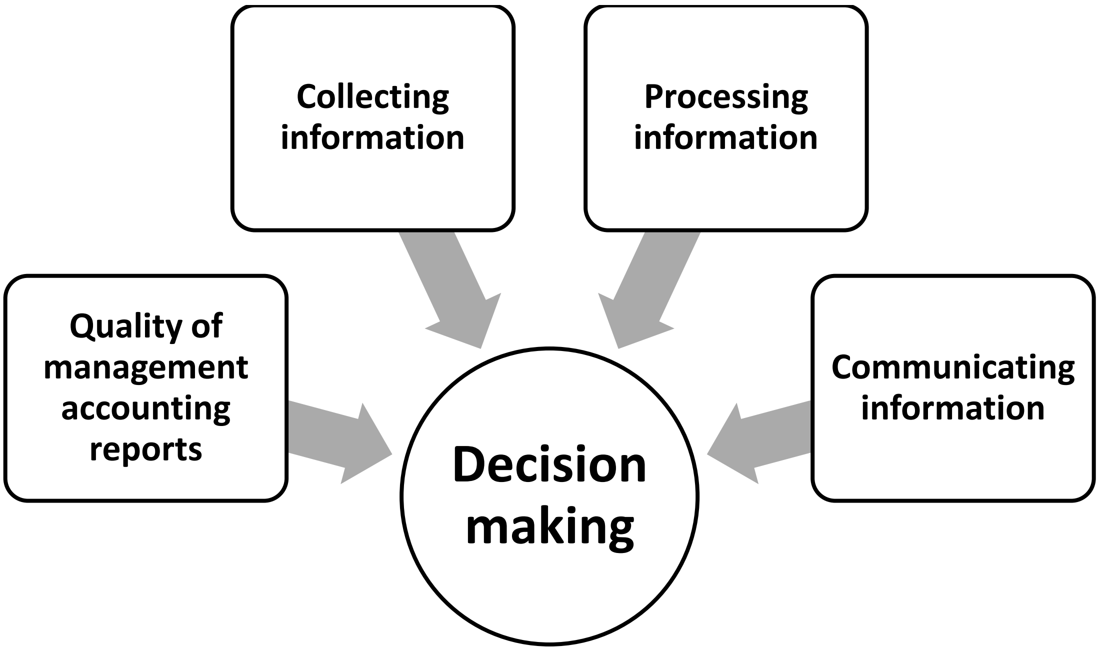

Figure 3: Conceptual framework.

Source: Author (2019)

1.10 Summary

This chapter was mainly based on the examination of the roles of management accounting on decision making. This was done using similar theoretical ideas as well as a review of the related literature. Studies have shown that management accounting plays a vital role of decision making in organisations. The reviewed studies also showed that there are quite a number of management accounting practices that are used to make decisions.

A review of such methods revealed that the effectiveness of decisions made are not mainly determined by the management accounting methods used to make decisions, but rather on how managers approach each individual aspect of management accounting. As such, the study highlighted that management accounting affects decision making based on how managers collect, process and, communicate information and prepare quality reports. Other studies normally focus on the use of specific methods such as activity, cost and process accounting but little has been done to focus on activities involving the use of such methods. This study therefore contributes to prevailing literature on decision making and management. This is because it deals with issues affecting the effectiveness and quality of decisions made. As a result, other organisational aspects such as performance are determined by the extent of decisions made by managers. Hence, it is in this point of view that this study considers the effects and implications of management accounting on decision making.

The decision to focus on the collection, processing and communication of information, and preparation of quality reports varies between organisation, industry and sector. A number of studies focus on manufacturing firms and much more attention is needed to examine such a case in the context of telecommunications companies. This is relatively true with regards to Northern Iraq which is still yet to see specific studies being made to address such as issue.

The review literature also showed that improvements in the use of regression analysis to estimate the effects of management accounting on decision making have been insignificant. Hence, this study proposed to use a regression model developed on the premise that the effects of management accounting on decision making of telecommunications companies in Northern Iraq can be modelled. The benefit being that the effects of management accounting can easily be estimated, and both the size and significance of the effects can be established as well.

CHAPTER 2

RESEARCH METHODOLOGY

2.1 Introduction

This chapter lays out details of the methodological procedures that were used to carry out this study. As such, it concentrates on the research design of the study and the instruments which was used to collect the data. It also provides details of the population and sampling methods used in this study. This also includes data analysis and presentation procedures, reliability and validity tests carried out in this study. It

also provides details on ethical measures taken to ensure that the study remains within the stipulated ethical guidelines and the limitations of the study and how they were addressed.

2.2 Research design

Foremost, the study adopted a quantitative research design and the goal was to limit and restructure complex research problems (Mujis, 2010). A quantitative research design is a type of a research that involves the use of numerical data to quantify a research problem (Mugenda, 1999).

Such a design was used in this study because it provides essential information that is needed for making good business decisions (Vogt, 2007). It also made it possible to determine the statistical significance of the model variables which enhances the validity of the study.

Moreover, Dörnyei (2007), contends that a quantitative research design is beneficial because it reduces the probability of making errors. The study involved the estimation of a regression model using primary data that was collected from telecommunications company employees in Erbil, North Iraq.

The collected data was analysed using descriptive statistics and correlation coefficient tests. Reliability tests were also conducted using Cronbach alpha tests and this was done in line with the need to ensure that all the ethical standards were upheld. The data analysis process was carried out using Statistical Package for Social Sciences (SPSS) 23.

2.3 Research instrument

The research instrument was developed using ideas provided by Butterfield (2016). This was important because comparisons were made between the findings established in this and those established by Butterfield. In addition, the research instrument was also developed used empirical ideas from already validated studies. This helped to ensure that the questionnaire remained highly valid and reliable for fulfilling the purposes of this study.

The questionnaire was composed of two sections. The first section focused on capturing the demographic details of the participants while the second section dealt with information pertaining to the roles of management accounting and its effects on decision making.

A five-point and four-point Likert scales were used to measures constructs in the first and second sections respectively. The fiver-point Likert scale had values which ranged from one to five and corresponded to I completely disagree, I disagree, neutral, I agree, and I completely agree respectively. The four-point Likert scale had values which ranged from one to four and corresponded to very important, somewhat important, not important and not at all important respectively.

2.4 Population and sampling methods

The study will be based on the examination of the roles of management accounting om the decision making of telecommunication companies in Erbil. The sample size will be based on a study population of 120 employees drawn from Korek Telecommunications Company. This is of huge important because close generalisations can be made about the roles of management accounting om the decision making in the of telecommunications industry (Cooper, Schindler & Sun, 2006).

Thus, the sample size was determined from the study population of 120 employees using a sample size determination formula by Mugenda (1999) as shown using expression (1). This is because this formula made it possible for the researcher to draw conclusions that match the actual population size (Cooper, Schindler & Sun, 2006). ***S***, represented the sample size, ***P*** the population size and ***MOE*** the margin of error which is usually considered to be 0.05 (Seber & Lee, 2012).

$$S = \frac{P}{1+P(MOE^2)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Thus, by inputting the population size and the MOE, the sample size was determined as shown using expression (2) as follows;

$$S = \frac{120}{1+120(0.05^2)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

This resulted in a computed figure of 100.94 and this implied that the researcher focused on a sample size of 101 participants. Hence, a total of 101 questionnaires were distributed to Korek Telecommunications Company in Erbil.

2.5 Data analysis and presentation

Regression analysis was used in this study to examine the roles of management accounting in the decision-making process. The reason being that regression analysis make it feasible to examine the relationship between management accounting and its roles (Sekaran & Bougie, 2016). In addition, regression analysis can also be used to determine the magnitude of effect between management accounting and decision-making (Seber & Lee, 2012).

The regression model is based on the idea that decision making (DM) is a function of collecting information (CI), processing information (PI), quality of management accounting reports (QMAR) and communicating information (COMI). This can be illustrated in a functional form as follows;

DM = f (CI, PI, QMAR, COMI) …………………………………………………………… (1)

We introduced regression analysis to expression (1) and this includes the use of an intercept (α), coefficients (β_1 to β_4) and an error term (μ). This resulted in a regression model shown by expression (2) as follows;

DM = α + β_1**CI** + β_2**PI** + β_3**QMAR** + β_4**COMI** + μ ……………………………………. (2)

Hypotheses were thus formulated with respect to expression (2) and the test results were obtained from the estimated regression model. Thus, the null hypotheses were formulated as follows;

- **H_1:** The use of management accounting to collecting information has no significant effects on decision making.
- **H_2:** The use of management accounting to process information has no significant effects on decision making.
- **H_3:** The use of management accounting to prepare quality management accounting reports has no significant effects on decision making.
- **H_4:** The use of management accounting to communicate information has no significant effects on decision making.

The computed findings were analysed using SPSS version 23. Microsoft Excel was also used as party of the data presentation process and this helped to organise the data into meaningful in the form of charts and graphs.

2.6 Reliability tests

Cronbach's alpha test was employed in this study so as to examine the internal consistency of the model variables. Cooper, Schindler and Sun (2006) highlighted that it is essential to conduct internal consistency tests so as to assess the extent to which the constructs can warrant high reliability. Tavakol and Dennick (2011) contends that a minimum value of 0.70 is needed for the model constructs to yield the desired internal consistency that can warrant high reliability.

2.7 Validity tests

Validity tests were carried out with respect to facial validity tests. Facial validity measured the extent to which the research instrument's variables or constructs measured the intended subject matters (Saunders, 2011). It is in this regard that a draft questionnaire was given to two academic officials at the institution of study for further evaluation. The academic officials expressed total satisfaction with the potency of the research instrument's variables or constructs to measure the intended subject matter. That is, the constructs ability to provide a detailed explanation of the role of management accounting in the decision-making process.

2.8 Ethical considerations

Considerable attention was devoted towards ensuring that the study upheld to good ethical standards by all means. As a result, all the used literature sources were given due acknowledgement. In addition, the researcher applied for ethical approval from the institution of study for the purposes of ensuring that it confines within the university's quality and international standards.

This also encompasses efforts to ensure that the information contained in the research instrument is strictly within the desired ethical guidelines. In addition, the research was carried out with the verbal consent of the participants following the provision of a written consent to the participants. The researcher also made sure that the obtained findings were not made public without the consent of the participants.

2.9 Limitations of the study

There are numerous roles of management accounting and the study managed to group a significant number of these roles into four broad categories. This helped to ensure that more broad and detailed generalisations can be made. In addition, the study drew its focus on a telecommunications company which is based in Erbil, North Iraq and hence the generalisations of the findings can be limited.

CHAPTER 3

DATA ANALYSIS AND PRESENTATION

3.1 Introduction

The study involved the use of primary data collected from participants through the use of a questionnaire. A total of 120 questionnaires were distributed to a telecommunications company in Erbil, North Iraq and 107 questionnaires were retrieved. The data was analysed using SPSS version 23 and the idea was to obtain ways through which answers to the given research questions can be answered. As a result, this chapter looks at data analysis methods that were used to carry out this study.

3.2 Demographic analysis

The demographic details revealed that 51.4% of the employees were female and this was against a total of 48.6% of male employees. The highest number of employees were between the age group of 26-33 years and accounted for 36.4% of the total number of employees with 8 employees at least 42 years old.

With regards to educational qualifications, the findings revealed that 28 employees had diplomas, 32 had BSc/Ba, 44 had MSc/MA and 3 had PhD degrees. 63 employees work at the head office and 44 and the branch office. It was also noted that there were significant variations between the number of employees working under different managerial levels. That is, 46 working under junior level managers, 48 employees under middle level managers and 23 under middle level senior level managers.

It was noted that 77 employees agreed that the reports contain financial information at work. 30 employees agreed that the reports do not contain financial information at work. This therefore shows that there is a huge importance that is placed towards making sure that financial information is distributed to all the employees, stakeholders and shareholders of the company for making corporate decisions. In addition, it can be said that the distribution of financial information varies according to department. That is, departments vary with the extent to which they need, rely and make use of financial information. As a result, their reports will contain different magnitudes of financial information (see Table 4.2).

Table 1:

Demographic analysis.

Variable	Description	Count	Percentage
Gender	Male	52	48.6
	Female	55	51.4
	Total	**107**	**100**
Age group	18-25 years	31	29.0
	26-33 years	39	36.4
	34-41 years	29	27.1
	42 years +	8	7.5
	Total	**107**	**100**
Educational qualification	Diploma	28	26.2
	BSc/BA	32	29.9
	MSc/MA	44	43.9
	PhD	3	
	Total	**107**	**100**
Work location	Head office	63	58.9
	Branch office	44	41.1
	Total	**107**	**100**
Managerial level	Junior level	46	
	Middle level	48	
	Senior level	23	
	Total	**107**	**100**
Do reports contain financial information at work?	Yes	77	72.0
	No	30	28.0
	Total	**107**	**100**

3.3 Use of financial information

The secondary objective of this study was to determine uses which management accounting can be put to. There was a high agreement among the employees that financial information is mainly important for directing and controlling performance. This is because 33 employees were in support of the use of financial information towards fulfilling this objective. It also noted that a second highest number of 20 employees agreed that financial information is useful for assessing the competitive position of the firm. 19 consider financial information to be useful for allocating resources, 16 for developing long terms strategies and goals, 11 for planning goals and objectives, and 8 for motivating employees to work towards achieving organisational goals.

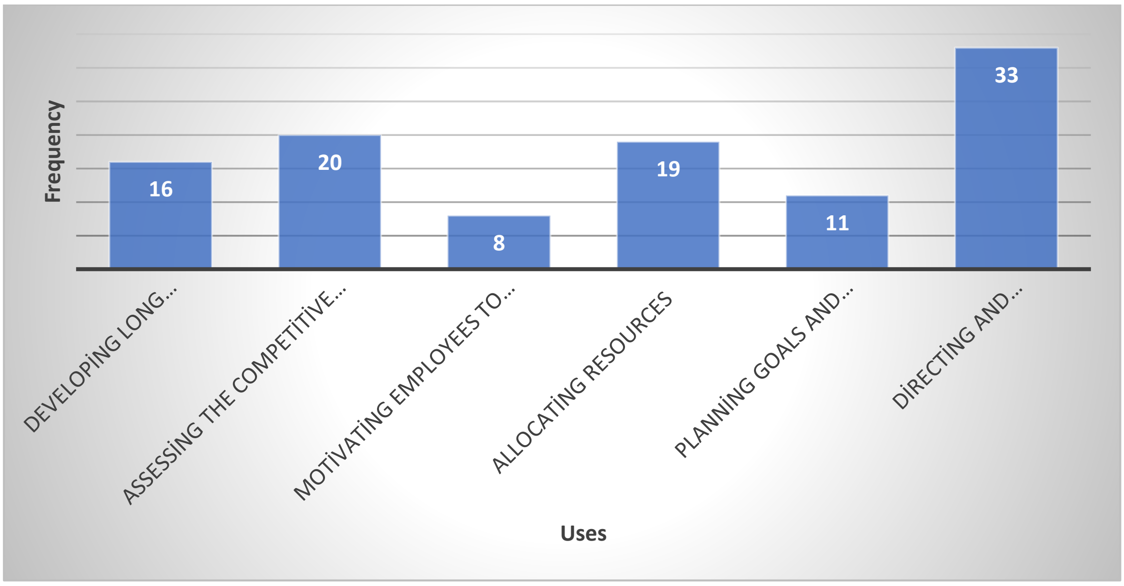

Figure 4: Uses of management accounting in decision making

Source: Author (2019)

3.4 Descriptive analysis

Descriptive statistics were computed for all the model variables. The results showed that the respondents consider the collection of information is a relatively important and or major issue of concern. This can be evidenced by a mean value of 3.75±0.648 and the standard deviation is relatively high which entails that there is a high responsive effect of collecting information on other variables. The lowest mean effects were noted to be associated with the variable processing information with a value of 2.900±0.490. this possibly means that the respondents consider processing information as having little or insignificant effects on other management accounting variables as well as decision making.

Table 2:

Descriptive analysis.

Variable	Mean	Std. Dev
collecting information	3.749	0.648
quality of management accounting reports	3.729	0.498
processing information	2.900	0.490
communicating information	3.743	0.536

3.5 Correlation aspects between management accounting and decision making

Pearson correlation coefficient test was used to determine the correlation between management accounting variables (collecting information, processing information, quality of management accounting reports, and communicating information) and decision making.

Table 3:

Correlation coefficient test

	DM	CI	PI	QMAR	COMI
DM	**1**				
CI	0.661*	**1**			
PI	0.185	0.373*	**1**		
QMAR	0.645*	0.975*	0.331*	**1**	
COMI	0.667*	0.355*	0.072		**1**

Decision making (DM), collecting information (CI), processing information (PI), quality of management accounting reports (QMAR) and communicating information (COMI).

Foremost, the results showed that all the management accounting variables are positively correlated with each other. This possibly means that an improvement in one of the management accounting variables will result in an improvement in the other variables. Secondly, the results show that there are positive correlations between management accounting variables (collecting information, processing information, quality of management accounting reports, and communicating information) and decision making. A high and significant positive correlation of 0.975 can be as a result of the fact the producing high-quality reports is highly determined by the ability of the company to collect more and reliable information (Hematfar et al. 2010).

On the other hand, a low and insignificant correlation of 0.072 can be said to exist between the communication of information and the processing of information. This means that the processing of information is highly dependent on the effectiveness of the company's information systems and less dependent on the communication of information which is the ultimate task (Baharmfar & Rassoli, 2001).

3.6 Model summary

The estimated OLS regression model had an R-square value of 0.657 meaning that 65.7% of the variations in decision making abilities of the telecommunications companies are explained by collecting information, processing information, quality of management accounting reports, and communicating information (see Table 4.5). there is a small different between R^2 and Adjusted R^2 which means that the model did not have irrelevant variables. In addition, the F-statistic of48.753 was observed to be significant at 1% (0.000) and this means that the estimated model was correctly specified.

Table 4*:*

Model summary

R^2	Adjusted R^2	Std. error
0.657	0.643	0.3874

F-statistic = 48.753; probability = 0.000

3.7 The role of management accounting in the decision-making process

In order to determine the roles of management accounting, an OLS regression model was estimated using SPSS version 23. The results showed that management accounting has a positive role on the decision making of the telecommunications companies. This is because an increase in the ability of the telecommunications companies to collect information by 1 unit will result in an improvement in decision making by 1.025 units. This is in line with the results established by Ed (2000) who contends that a high availability of information enhances an organisation's ability to make rational decisions.

The results also show that there is a negative effect of quality of management accounting reports on the decision-making process of telecommunications companies. This is because an improvement in the quality of management accounting reports prepared by 1-unit results in a decline in the decision-making ability of the telecommunications companies by 0.386 units.

This is mainly because of the introduction of new management accounting systems and ideas which are usually adopted from other countries (Hematfar et al. 2010). As such, managers and other stakeholders will need to be trained on how to use such systems and reports and thus, causing an increase in the time needed to make decisions. Thus, in this case an improvement in the quality of management accounting reports can be said to reduce the decision-making ability of telecommunications companies.

Table 5:

The role of management accounting in the decision-making process.

Variables	**Coeff.**	**Stand. err**	**t-stat.**	**p-value**
Constant	-0.625	0.365	-.1765	0.081
collecting information	1.025	0.351	2.917	0.004
quality of management accounting reports	-0.386	0.353	-1.095	0.276
processing information	-0.065	0.087	-0.744	0.458
communicating information	0.604	0.076	7.982	0.000

The results also show that an increase in the amount of time and processing activities that need to be processed results in a decrease in the decision-making abilities of the telecommunications companies. This is because there is an inverse relationship between processing information and decision making of 0.065. a study by Alqashi (2003) showed that this is because of increased time taken to process information and reports due to system failures, conflicts, long chain of commands etc.

It was noted that the use of management accounting to communicate information has a positive effect on the decision-making abilities of the telecommunications companies. It can be seen that an improvement in the communication information by 1-unit results in a significant improvement in the decision-making abilities of the telecommunications companies by 0.065 units. Reyes, Rodrigues and Dolado (2007) agreed with this idea and highlighted that providing managers with the required information enhances their decision-making abilities.

3.8 Reliability tests

Reliability test was done using Cronbach's alpha to determine the variables' internal consistency with regards to decision making. That is, the extent to which they help explain variations in decision making.

Table 6:

Reliability tests

Variable	**Cronbach's alpha**	**Decision**
Decision making	0.735	Highly reliable
collecting information	0.719	Highly reliable
quality of management accounting reports	0.725	Highly reliable
processing information	0.858	Totally reliable
communicating information	0.811	Totally reliable

The established results show that all the alpha values are above 0.70 and this means that all the variables have high internal consistencies. In other words, management accounting variables can be said to be highly reliable when used to explain the roles they play in decision making.

CONCLUSIONS, RECOMMENDATION AND SUGGESTIONS FOR FUTURE STUDIES

The study sought to examine the roles of management accounting in the decision making of telecommunications companies. The study also sought to determine the usefulness of management accounting information in the decision-making process of telecommunications companies. This also included findings ways that can be used to enhance the effective use of management accounting information in making decisions by telecommunications companies.

The results showed that there was a high agreement among the employees that financial information is mainly important for directing and controlling performance. It was also noted that there is a significant variation in the use of financial information among the telecommunications companies. As such, financial information is used for assessing the competitive position of the firm, allocating resources, developing long terms strategies and goals, planning goals and objectives, motivating employees to work towards achieving organisational goals. This entails that financial information is used for quite a number of purposes and such purposes vary in significance according to the activities of each department.

It can be concluded that all the management accounting variables are positively correlated with each other. Thus, an improvement in one of the management accounting variables will result in an improvement in the other variables.

In addition, there are positive correlations between management accounting variables (collecting information, processing information, quality of management accounting reports, and communicating information) and decision making. However, producing high-quality reports is highly determined by the ability of the company to collect more and reliable information. On the other hand, the processing of information is highly dependent on the effectiveness of the company’s information systems and less dependent on the communication of information which is the ultimate task.

The obtained results are in agreement with the existing literature concerning the role of management accounting with respect to collect information. The idea is that a high availability of information enhances an organisation's ability to make rational decisions. On the other hand, an increase in the amount of time and processing activities that need to be processed results in a decrease in the decision-making abilities of the telecommunications companies.

A related study has shown that this is because of increased time taken to process information and reports due to system failures, conflicts, long chain of commands etc., (Alqashi, 2003). Moreover, an improvement in the communication information results in a significant improvement in the decision-making abilities of the telecommunications companies. This stems from the fact that providing managers with the required information enhances their decision-making abilities.

In overall, the results show that management accounting has a significant impact on the decision making of telecommunications companies. This is evidenced by a relatively high R-squared and a significant F-statistics. Hence, we can conclude that management accounting plays a vital role in decision making.

Recommendation

Recommendations were made based on the established results. As such, the following propositions were made;

- There is greater need to enhance the collection of information through the use of primary data sources such as surveys, data bases and other sources of information.
- Much effort should be placed towards providing more information to managers about the newly adopted ways of reporting financial information. this will assist in ensuring that the quality of management

accounting reports does not compromise the decision-making process.

- Newly and advanced information systems are required to enhance the processing of financial information so as to enhance the effectiveness and efficiency of the decision-making process.
- Effective communication channels are needed to smoothen the communication of information within the telecommunications companies. This also include removing barriers that hinder communication.

Suggestions for future studies

This study uses data that is drawn from telecommunications companies and hence the results of this study can only be generalised to telecommunications companies. Future studies can make a comparison between telecommunications companies and other companies so as to enhance the applicability of the findings.

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LIST OF APPENDICES

Appendix 1: Research questionnaire

Near East University
Graduate School of Social Sciences
DEPARTMENT OF BANKING AND ACCOUNTING

THE ROLE OF MANAGEMENT ACCOUNTING IN THE DECISION-MAKING PROCESS

Dear participant,

The questionnaire below is designed as part of my masters' thesis study that focuses on THE ROLE OF MANAGEMENT ACCOUNTING IN THE DECISION-MAKING PROCESS. Information that will be obtained as a result of the completed questionnaires will be used for scientific purposes only. Under no circumstances will your contributions, other than general findings, be shared with other persons or organizations.

Your kind assistance on the completion of the questionnaire is needed which will directly affect the outcome of my thesis.

Thank you for your time.

Yours faithfully,

Sardar Jalal Braim

Section I

Personal details

Tick as you see appropriate (√).

1. Gender?

    □ Male □ Female

2. Marital status?

    □ Single □ Married

3. What is your age group?

    □ 18-25 years □ 26-33 years

    □ 34-41 years □ 42 years and above

4. What is your educational qualification?

    □ Diploma □ BSc/BA

    □ MSc/MA □ PhD

5. Where is your work based?

    □ Head office □ Branch office

6. How long have you been working for the company?

    □ 1-5 years □ 6-10 years

    □ 11-15 years □ 16 years and above

7. What is y0our managerial level?

    □ Junior manager □ Middle manager

    □ Senior manager

8. Do your reports contain financial information at work?

    □ No □ Yes

9. How often in general do you use reports containing financial information at work?

□ Monthly □ Quarterly

□ Semi-annually □ Yearly

Section II: Informative section

This section seeks to acquire details about your perception towards the role of management accounting in decision making. Kindly provide your answers based on rating of 1-5 which corresponds to the following

I completely disagree	I disagree	neutral	I agree	I completely agree
1	2	3	4	5

Tick as you see appropriate (√).

	Use of financial information	**1**	**2**	**3**	**4**	**5**
10	Developing long strategies and plans					
11	Assessing the competitive position of the firm					
12	Motivating employees to work towards achieving organisational goals					
13	Allocating resources					
14	Planning goals and objectives					
15	Directing and controlling performance					

This part seeks to acquire details about your perception towards the role of management accounting in preparing quality reports. Kindly provide your answers based on rating of 1-5 which corresponds to the following

Very important	Somewhat important	Not important	Not at all important
1	2	3	4

Tick as you see appropriate (√).

	Quality of management accounting reports	**1**	**2**	**3**	**4**
16	It is possible that I will use the information contained in the reports				
17	I am happy with the way management accounting reports are being prepared				
18	I depend on the accuracy of the published reports				
19	The information provided is up to date				
20	The required information is easily and readily available				
21	The reports are easily comprehensible				
22	The reports are clear				
23	The information contained in the reports is adequate				

This part seeks to acquire details about your perception towards the role of management accounting in decision making. Kindly provide your answers based on rating of 1-5 which corresponds to the following

I completely disagree	I disagree	neutral	I agree	I completely agree
1	2	3	4	5

Tick as you see appropriate (√).

	Decision making	**1**	**2**	**3**	**4**	**5**
24	Strategic decision are made by the board of directors through accounting information					
25	Decisions of the management largely depends on accounting information					
26	Decisions about the perception of employees is made through accounting information					
27	Decisions as to whether the enterprise is making profits or not is made via accounting information					

28	Time factor in decision making is largely dependent on accounting information					
29	Decisions about overall performance of the organization via growth, effectiveness, productivity etc is made through accounting information.					
30	Management can easily make effective decisions that would move the enterprise forward through accounting information.					
	Collecting information					
31	Management accounting makes it easy for managers to collect information.					
32	Information is collected on time.					
33	There are no barriers that hinder the collection information by managers.					
34	Information is collected at a relatively affordable price.					
35	Management accounting provides so may ways of collecting information.					
36	All employees can easily participate in the information collection process.					
37	Management accounting provides a better way of collecting information.					
38	Various information can easily be collected.					
	Processing information					
39	There is timeous processing of information.					
40	A lot of information can be processed at once.					
41	A few resources are needed to process management accounting information.					
42	There is advanced technological equipment to aid the processing of information.					
43	The information processed can easily be used by all departments.					
44	The processed information is always useful.					
45	Management accounting information is sometimes					

	difficult to process.					
46	Not all organisational information is easily processed.					
	Communicating information					
47	Accounting information is easy to communicate between departments.					
48	Less time is needed to communicate processed accounting information.					
49	There are various ways that can be used to communicate accounting information.					
50	All employees can participate in the communication process.					
51	Not all employees have access to accounting information.					
52	There are challenges that limit the communication of accounting information.					
53	More is needed to improve the communication of accounting information.					
54	The communication of accounting information is vital for the organisation.					

…… Thank you for your time ...

PLAGIARISM REPORT

THE ROLE OF MANAGEMENT ACCOUNTING IN THE DECISION-MAKING PROCESS

SARDAR BRAIM

Thesis 1

ORIGINALITY REPORT

11%	4%	1%	10%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Mount Kenya University Student Paper	1%
2	Submitted to Yakın Doğu Üniversitesi Student Paper	1%
3	Submitted to Regenesys Business School Student Paper	1%
4	Submitted to TechKnowledge Student Paper	1%
5	www.scribd.com Internet Source	<1%
6	Submitted to University of Keele Student Paper	<1%
7	Submitted to Royal Holloway and Bedford New College Student Paper	<1%
8	Submitted to The Robert Gordon University Student Paper	<1%
9	Tanyani , Hadi Bakhsheshi | Gilaninia ,	

ETHICAL APPROVAL FORM

YAKIN DOĞU ÜNİVERSİTESİ

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

10.01.2020

Dear Sardar Jalal Braim

Your application titled **"The Role of Management Accounting in the Decision-making Proces"** with the application number YDÜ/SB/2020/492 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

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.