

Unicaf University

Course name and code:

UU-MBA-711-ZM – Dissertation

Dissertation Title:

Management Information Systems: A strategic tool for business

Student name:

Mduduzi Menzi Dlamini

Student ID number:

R2005D10835730

Tutor name

Giorgos Georgiou

Abstract

For a number of years there has been little research conducted on the evaluation of Management Information Systems (MIS) which has resulted to a lack of knowledge on the variables and tools for determining the usage and impact of MIS on supporting an organisation to reach its strategic goals. Due to this gap in the studies, this study explored MIS as a strategic tool for business to enhance organisational effectiveness and performance. The theoretical framework is relying on the DeLone and McLean's technological success model which is usually used when conducting technological studies. Exploring and using a wide-ranging literature review on the past and more current studies, the research framework fused a number of several new objects employed by researchers for the evaluation of MIS on business.

Following an evaluation of literature on a number of businesses, the study came up with findings and made a conclusion which provides a clear understanding of the use of MIS in a business to enhance effectiveness and performance. Data for this study was sourced from a wide range of secondary research that has been conducted on topics that align with this study. A number of descriptive findings of theoretical importance were produced after an analysis of data. This study will contribute to existing research in a number of ways including outlining the different types of MIS that can be implemented and used in a business; using MIS for business performance; using MIS for strategic decision making; using MIS for competitive advantage and also factors that hinders the use of MIS. These factors have a huge impact on the strategic direction of an organisation towards attaining its goals and objectives. The findings of the study outline a major relationship between usage of MIS and organisational effectiveness and performance. They provide an all-inclusive outline for determining organisational performance with the use of financial and non-financial measures.

Acknowledgments

I would like to offer my special thanks to my supervisor, Giorgos Georgiou, for the guidance and feedback from all the work throughout the study. With the guidance I was able to go through all the stages of development of this research. The immense knowledge and understanding of my supervisor hugely contributed to the completion of this study. I would also offer my thanks to my counterparts at Unicaf University, Zambia for the support through their helpful discussions, comments and feedback throughout the course of study. Finally, I would like to thank my family for their support and love. They unquestionably provided me with support to study and carry out all the required exercises.

Table of Contents

Abstract	2
Acknowledgments	3
List of Tables	6
List of Charts	7
Abbreviations	8
CHAPTER ONE	9
1.0 Introduction	9
1.2 Background	9
1.3 Significance of investigation	10
1.4 Statement of the problem	10
1.5 Research Questions	10
1.6 Aim of the study	11
1.7 Objectives of the study	11
1.8 Why was the study carried out	11
1.9 Research summary and the tools to be used	11
1.9 Study organization	12
CHAPTER TWO	13
2.0 LITERATURE REVIEW	13
2.1 Introduction	13
2.2 MIS Planning	14
2.3 Management Information Systems on Decision Making	14
2.4 Management Information Systems on Knowledge Management	15
2.5 Management Information Systems on Performance	16
CHAPTER THREE	19
3.0 RESEARCH METHODOLOGY/DESIGN	19
3.1 Introduction	19
3.2 The Study's Design	19
3.3 Sampling	20
3.4 Data Collection	20
3.5 Data Analysis	20
3.6 Ethical Consideration	21
CHAPTER FOUR	22

4.0 CRITICAL EVALUATION OF SECONDARY DATA	22
4.1 Introduction	22
4.2 Categories of Management Information Systems	22
4.3 Management Information Systems Acceptance	23
4.4 Usage of Management Information Systems	24
4.4.1 Encouraging MIS usage: MIS Training	25
4.5 MIS on Organisational Performance	26
4.6 MIS for Competitive Advantage	27
4.7 MIS on Strategic Decision Making	28
CHAPTER FIVE	31
5.0 CONCLUSIONS & RECOMMENDATIONS	31
5.1 Introduction	31
5.2 Summary and Recommendations	31
References	33
Appendices	37
Appendix 1: Research Schedule	37
Appendix 2: Ethics Review Checklist	38

List of Tables

Table 1: Usefulness Measures	22
Table 2: Ease of Use Measures	22
Table 3: MIS Access and Usage Businesses (Past 10 Years)	23
Table 4: Performance Measures on Organisations	24

List of Charts

Figure 1: Percentage of MIS Access and Usage Businesses	25
Figure 2: Percentage of MIS Impact on Measures	27
Figure 3: MIS Resources for Organisational Performance	27
Figure 4: Competitive Benefits of MIS	28
Figure 5: Business Decision Making	29
Figure 6: Mostly used Decision Making Systems	30

Abbreviations

MIS	Management Information System
IT	Information Technology
KM	Knowledge Management
KMS	Knowledge Management System
TSP	Information Providing System
IPS	Decision Support System

CHAPTER ONE

1.0 Introduction

The past two decades saw the increase in the development and usage of Information Technology (IT) and this has brought major changes in the lives of people making it possible for easy management, storage and processing of data. IT has given birth to many technologies which include Management Information Systems (MIS), which have proven to be useful tools in the conducting of businesses. This paper will critically review different sources on how these tools can be strategically used in a business, in terms of knowledge management, decision making and improving performance. Decision making is a key process in the management of a business and determines its competitive direction. The introduction of technologies has brought changes on management processes and how managers run their businesses. Management processes require swift, accuracy with assistance of appropriate IT support. This requirement has pushed for new MIS development tactics.

The study will present the benefits of using MIS as a strategic tool in an organization and also present any link between the usage of MIS against organizational performance. The study will also analyse the different types of MIS that has been proven to be adopted by organizations and their effect on the leadership and performance of the organization. This study will help provide direction for organizations on the importance and types of MIS for proper management of organizations.

1.2 Background

There can be many definitions of MIS and according to O' Brien and Marakas (2008), an MIS is an information system (a combination of systems and procedures) which collects data from a number of sources which is mainly used in an organization for decision making. Proper and accurate data is needed in order to come up with decisions which will strategically move the organization forward and this is where an MIS comes in to place. Strategic direction of an organisation is very important, and this is achieved with the guidance of a robust leadership. Leadership has an enormous influence on the general performance of an organization. Consequently, it is very important that organisational leaders adopt proper tools that will strategically align the organisation (Peter et al., 2008). It has been debated that the lack of appropriate tools results in the processing within an organization being compromised when there is a need to process volumes of data. Without appropriate tools, information access is

limited to a few or one person at a time. Therefore, committing errors is likely to happen and thus negatively affecting the business. In the modern world, Management Information Systems are vital to adopt and implement in an organization. This is necessitated by the need of having meaningful data that will be interpreted in to information through a suitable tool and concurrently improving organizational efficiency.

1.3 Significance of investigation

To show that organizations are getting positive results from the use of Management Information Systems, a number of organizations in nowadays are starting to adopt and implement these technologies (Davis and Yen, 2008). It is envisioned that the study will produce results which will outline the degree to which Management Information Systems are a strategic tool to drive an organization to efficiently come up with decisions, thus achieving their goals and competitive advantage.

1.4 Statement of the problem

Many organizations have adopted technologies within their processes as technologies around the world increase. Sadly, the rate of adoption of these technologies does not tally with the effective design, usage and effect of information within the organizations. The study is looking in to improving the effective usage of information within an organization which will help in improving its performance.

1.5 Research Questions

Main Research Question

- How can Management Information Systems be used as a strategic tool for business?

Sub Research Questions

1. How can Management Information Systems for be used for Knowledge Management in a business?
2. What are the different types and key extent of Management Information Systems that can be implemented for efficient strategic decision-making?
3. What is the relationship between Management Information Systems and organisational performance?

1.6 Aim of the study

The study is meant to recognize the effects of using management information systems as a key strategic tool for an organization and also to recognize their link with organizational performance. The study will present evidence of using MIS for proper management of an organization and decision making to achieve a complete organization strategy through the use of correct data and information from MIS. The study will present the degree to which Management Information Systems (MIS), is the driving force for enabling and achieving effective decision making in an organization.

1.7 Objectives of the study

1. To know how to incorporate management information systems for strategic direction of an organization.
2. To examine the different Management Information Systems that can be implemented for business productivity.
3. To discover how can Management Information Systems support and improve business operations and processes across different organizational departments
4. To provide references for efficient implementation of Management Information Systems for improved organizational performance.

1.8 Why was the study carried out

It is expected that the study will provide a clear conclusion on the usage of Management Information Systems as a strategical tool for organizations. The results should also outline the noteworthy relationship between MIS and organizational performance. The study should be able to present an all-inclusive outline for determining how MIS can support business operations and functions in order to increase organizational performance. Lastly, the study must give results that will close the gap along the field of study which will also influence future studies on the MIS field. This study will be beneficial to organizations since it will provide a framework for strategically directing their organizations with the use of MIS, and in the process contribute to economic improvement.

1.9 Research summary and the tools to be used

The study will adopt the usage of secondary data and this data will be summarised and organized to make sure that the research is effective. According to Gray (2013), research objectives, requirements and field of study of the research topic determines the type of a

methodology to be adopted by a researcher. It should be always be noted that the major objective of a research method is to generate new facts. The study will adopt combining secondary data sets as a method of the research for the secondary data analysis. This method will be suitable for the study because it will relate conclusions from past studies and the research purposes to examine the results from different appropriate positions. This will ensure that the results become more accurate because of the use of diverse methods and procedures. The study will be conducted using both quantitative and qualitative data sets.

1.9 Study organization

The main intentions for this study were assessed using a number of established academic records concentrated on the study's topic of "Management Information Systems: A strategic tool for business". This was achieved after a thorough examination of different research articles. The chapters to follow will give out an outline of the steps and processes that were carried out in the study. Appendix I outlines the research schedule for the whole duration of the study and the amount of time spent on the different processes.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

There is a limited number of literatures in the area of Management Information Systems and the results of the assessment exposes contradicting and inconclusive. According to Mooney and Kraemer (2006), focusing only on implementing technologies and not taking in to attention of the general processes cannot help in improving organizational performance. The authors argue that instead, this may bring a loss in to the organization. This idea is based on the conclusion of Strassmann (2007) that Information Technology is not a standalone tool in a business and it needs to be implemented within all the business processes in order to see positive results. Hirschheim and Smithson (1998), also agrees with this idea by highlighting that focusing on IT alone has the possibility of not getting the full benefits for organizational performance.

Supplementary studies on the link of Management Information Systems and organizational performance have been conducted and findings are not conclusive (Wang et al., 2006). According Ravichandran et al. (2009), studies remain inconclusive on the link of productivity and the use of MIS and this present a gap in the field of study (Ray et al., 2005). Nevertheless, Brynjolfsson and Hitt (1996), argues that proper adoption of IT drives the increase organizational productivity and profitability. Melville et al. (2004) supports this by further adding that IT is significant for the improvement of competitive advantage, while Shin (2006) outlines that IT plays a major role in the financial performance of an organization. Liang et al. (2010), in his study outlined that MIS contributes to both financial performance and organizational productivity.

With all the studies done on the use of IT for business, further studies are needed more especially focusing on Management Information Systems. According to Melville et al. (2004), it is important to have a deeper understanding on the impact IT and its extent within an organization in order to improve organizational performance. Tallon and Kraemer (2007), argues that without having a clear understanding of the impact of IT, organizations cannot reap the full rewards of IT. This study will contribute to the field of MIS by filling gaps that have been left in previous studies by further discovering the use and impact of MIS as a strategic tool for a business.

2.2 MIS Planning

Management is classically measured using the following activities which are namely planning, staffing, directing, organising and controlling. Bowman, Davis, and Wetherbe in their 1993 “*MIS planning: Information and management*” publication, point that it is important to effectively develop a plan on adopting and implementing management information systems. According to the authors, in order for an MIS to efficiently work in an organisation, it must be strategically aligned with all the other organizational strategies. The authors argue that a properly and strategically planned MIS in an organisation improves processes, thus increasing organisational performance. According to the authors, no matter how sophisticated an MIS can be if it is wrongly placed it will not be effective.

Although Bowman, Davis, and Wetherbe’s publication is a bit old, their conclusion can be applied even in today’s setting. This has been proven to have positive outcomes on the processes of an organisation. Additional assessment of current MIS planning exercise has been carried out by Sullivan. Sullivan conducted a study on a number of organisations in order to assess the efficiency of proper MIS planning methods. It was found out that organisations who practiced MIS assessment and planning had high performances in their processes and reaped more benefits from their MIS. He found that the level of success depended on how well the MIS was diffused in to the organisation. This meant that an organisation which disseminated the MIS throughout the organisation observed improvements in their processes, which in turn will improve the overall performance of the organisation.

2.3 Management Information Systems on Decision Making

The amount and type of information needed by managers at different stages in a business significantly fluctuate (Gupta, 2008). In order for businesses to provide services and meet their needs, different types of management information systems are needed. With the introduction of MIS, and their growth in the last few decades, businesses have increasingly adopted the management information systems in order to make decisions. Different kind of decisions are needed by managers across organisational processes. These decisions can be operational, tactical and strategic and they require different management information systems. According to Gupta in his 2008 book named “*Management Information Systems*”, using MISs helps in businesses to discover their strengths and weaknesses through the use of reports from different sections of the business. Discovering these characteristics also helps in

improving the business processes and operations. The author further states that MIS helps support in decision making by using data and feedback from customers to aid in the business to align its business processes and services to suit the needs of customers. An MIS helps in effectively managing customer data which can also be used to conduct direct marketing.

Gupta's conclusion can be supported since management information systems give out reports on their operations. Decisions needs to be based on evidence and this evidence is provided by MIS. MIS help in outlining the overall picture of a business, thus providing a basis of decision making within the organisation. The process of decision making has the potential of driving a business to achieve competitive advantage and it also helps as a communication and planning tool.

Even though an MIS can be used as a decision tool, if it is wrongly implemented or placed in an organisation, the decisions will not be accurate. Therefore, implementation of an MIS in an organization requires proper planning which will ensure that it gives out accurate information to be used for proper decisions. It should be noted that there are different management information systems which are designed for different purposes and they cannot be used across all the levels in the organisation. Therefore, management information systems must be implemented in their proper environments in order to efficiently work.

2.4 Management Information Systems on Knowledge Management

Knowledge is a crucial component in a business and proper measures need to be taken in order to create, retain, store, safeguard, share and use knowledge in order to achieve competitive advantage. Knowledge Management (KM), is a component that exist to help a business to jointly attain and share knowledge to achieve business goals. According to Alavi and Leidner (2001), in order to efficiently create, retain, store, safeguard, share and use knowledge, one or more supportive management information systems need to be implemented. These information systems are called knowledge management systems (KMS) and they are intended to support and improve business processes of knowledge management, and in the process providing the managers and the business appropriate knowledge required to make decisions and accomplish processes. In Alavi and Leidner's research, businesses using KMS showed enormous improvements in flexibility, awareness, decision making and performance.

Alavi and Leidner continues to outline that knowledge management information systems help in driving the implementing and sharing of best knowledge practices, creating business directories and also create knowledge networks. Without KMS, businesses get to have significant struggle to recognise, discover, and retrieve knowledge within the organisation. Without the proper capturing, storage, and transfer of knowledge in an organisation, the business cannot be profitable and this also reduce organizational performance.

Alavi and Leidner study clearly shows the importance and role of MISs in knowledge management. However, it should be noted that it is usually not the unavailability of knowledge or KMSs that reduces organizational performance, but the failure to turn knowledge into operative action. This is also supported by AlMaryani and Sadik (2012), by stating that there are a couple of factors, based on job design, individual personalities and organizational culture that hinder knowledge from being turned into effective action. This can happen by having business members not using the knowledge they have on the business operations and processes. Therefore, in order for management information systems to work for knowledge management, appropriate planning needs to be done together with appropriate business practices and systems. Appropriateness is crucial for effectiveness and an implemented system should suit the culture of the business and also the activities and tasks that are carried out on the business.

2.5 Management Information Systems on Performance

Business operations are mostly grounded on information that is produced through management information systems and individual members of the business. One of the main purposes of acquiring and implementing management information systems and new techniques is to improve business performance through improving processes and reducing costs (Chenhall, 2003). Chenhall in his research further outlines that business managers are less likely to implement an MIS that does not enhance the business' performance, mostly financial performance. Therefore, while management information systems help in improving decision-making, this in turn improves organisational performance through the improvement of procedures, tasks and financials among others.

Chenhall further outlines that in order to get total benefits and achievement of management information systems, its impacts on results needs to be analysed. He says the ultimate goal of an MIS in a business ought to attain an enhancement in performance. Chenhall concluded

that businesses which properly implemented management information systems observed improved decision making, organisational performance and ultimately improved financial performance.

Chenhall has been supported by Dopuch (1993), who also observed that business who were quick to implement MISs in their early stages attained quick financial improvements and had efficient processes than those who did not adopt MIS. When processes are efficient, service delivery improves which helps the business attain competitive advantage and, in the process, improve profits. This has been proven that business with information systems turn to have longer processes in their activities, and this affects performance. This may also prove not to be true since there are a number of business which fail while using management information systems. This can be attributed to many factors such as failure to plan and have proper strategy in place. Planning plays a major role in improving performance.

Furthermore, based on Naranjo-Gil (2009) study, MIS has a huge impact influence on strategic performance with the delegation of tasks, keeping customer information, the working together of different business units. Slotegraaf and Pauwels (2008), with their knowledge on management information systems, conducted a study of how diverse team compositions relate with an MIS, directly impacting strategic performances and concentrating on flexibility and cost savings. The results of the study show how the result of an MIS on strategic performance is managed and administered by top management team variety. The diversity of the team makes it possible that information is shared and also impact the employees' decisions which determines the performance of other departments. Additionally, the better MIS capability, the better and improved strategic performance.

An MIS plays a major role in the development of a business, among the many other benefits for the business. An efficient and consistent MIS helps a business in maintaining competitive advantage. It gathers data from within and outside the business and analysing this data to enable the process of decision-making within the business. DeLone and McLean (2003) in their research concluded that a successful MIS will drive and enhance the performance of a business. Therefore, business should make use of management information systems as strategic tool to be above its competitors. An efficient MIS will also drive a business in efficiently share knowledge internally and externally (Priem and Butler, 2001).

Moreover, businesses adopt and implement management information systems in order to enhance effectiveness of business operations and their overall decision-making processes (Henry, 2001). Even though management information systems have a number of benefits for businesses, there are some downsides (Liang et al., 2007). It is usually costly for businesses to adopt and implement management information systems and generally they need to be integrated with other technologies. The cost of an MIS goes together with the cost of maintenance of Management and training of the business staff who deal with MIS maintenance. According to Gray (2000), an MIS may become unproductive as irrelevant information may be produced thus leading to reduced business efficiency and decision-making process. In some cases, the adoption of an MIS may result in the removal of jobs since employees who were doing the MIS functions may become obsolete (Pfeffer & Sutton, 2000). There is therefore a need to have further studies on MIS to ascertain more benefits which have a huge impact on enhancing business performance and strategic decision making.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY/DESIGN

3.1 Introduction

This chapter outline all the research design and methodology's specifics for the study. The chapter will outline the order of phases to be undertaken while carrying out the study. The chapter is made up of the research design, sampling, data collection, data analysis and ethical consideration. The study should ensure that all measures undertaken within the study are guided by all the code of ethics of research. The study will be based on the following objectives, which are: to know how to incorporate management information systems for strategic direction of an organization, examining the different MIS that can be implemented for business productivity, discovering how can MIS support and improve business operations and processes across different organizational departments and also to provide references for efficient implementation of MIS for improved organizational performance.

3.2 The Study's Design

It is important to have a complete plan for conducting a research before the start of the research. The plan for the research is called the research design and it helps in outlining the details of conducting the study. The research design is a significant section since it aids as a blueprint for the researcher in organising and executing the research study.

In this study, the researcher adopted a mixed–method approach (quantitative and qualitative). This approach involves using impressions where the data sources will be pre–defined and this makes the approach to be suitable and enables the researcher to easily gather adequate data through the data gathering phase. The data-gathering method intended at coming up with conclusions has a huge impact on the reliability of the data, and therefore, the study ensured that data collection was properly done. Proper data collection ensures quality to further advance studies (Kendal, 2015).

Every so often there is a debate in choosing the most appropriate research design between quantitative and qualitative design when researching information technology topics.

Therefore, it is imperative that proper examination of each design's weak and strong points. Though examination on the reliability, validity and severity of each the approaches must be undertaken before execution of the study (Finlay and Gough, 2003). There have been various deliberations that have been conducted on qualitative and quantitative approaches which propose that in a number of features the qualitative approach is just robust as the quantitative

approach. Marshall and Rossman (1995) supports this by advising that qualitative approaches are just as vigorous, as quantitative approaches. The likenesses of the two approaches are observed during the sampling phase, since both the approaches maintain the research ethics and standards. According to Silverman (2010), qualitative approaches closely aligns to data-analysis principles which offers a clear feedback to the researcher, same as the quantitative approaches. This goes against the wildly stated interpretation that qualitative approaches generally don't offer strong data-analysis standards and procedures.

3.3 Sampling

This section of the study will highlight the method of selecting the study components from a population of interest. It is very vital that a proper decision is made on the type of the data to be collected in the study and also from where to get that data. This is because data sources usually have a huge impact on the quality of a study (Morse, 2002). Therefore, data sampling is the process of identifying and selecting sources of data (Grbich, 2007). Sampling is further described by Davis and Scott (2007) as an art and exercise of deciding on a share of a population in a way that will enable the entire population to be represented.

This study will be based organizations around the world to ensure a good mixture of the population for the study. The study will cover many different data sources which have been previously produced and a simple random sampling approach used.

3.4 Data Collection

This study will only employ the use of secondary data by classifying those that are about the use of Management Information Systems in a business or an organization. The data in the study was gathered from a number of reports and journals on the types of MIS for business, implementation of MIS in relation to organizational performance and strategic direction.

3.5 Data Analysis

In order to make sure that the data analysis process is properly carried out, data sources will be examined and analysed. The data sources should be able to produce reliable data which will be uniform with other data sources and this will safeguard the study in producing reliable findings which can be used to further other studies. All the extracted data will be analysed with use of analysis packages, such as Microsoft Excel. Analysed data will be presented with the use of graphs and other graphic presentations and in the process provide easy reading and understanding of the study's conclusions. The data analysis point will help in outlining the

summary of the collected data, recognising associations and contrasts among the key points of the study.

In order to make sure that research objectives are met, consistency and reliability of the data will be ensured. Inconsistent in the data will have an undesirable effect on the outcomes of the study and ensuring consistency in the data will help in to countering the research questions.

3.6 Ethical Consideration

The study will ensure that extra care is taken in maintain the required ethics and standards. The study will abide by and observe to all the code of ethics of research and also making sure that any approval needed for data in the study is obtained the relevant stakeholders

CHAPTER FOUR

4.0 CRITICAL EVALUATION OF SECONDARY DATA

4.1 Introduction

The previous sections of the research broadly reflected the scope of the problem, the objective of the study, approaches on conducting the study and also the collected literature on the use of MIS and their effect on organisations. This chapter will outline the findings of the study, which helped in reaching the conclusion about the use of MIS as a strategic tool for a business. The conclusions of the study are coherent with the research questions and objectives. This chapter will outline the findings of the study as they answered these objectives of the study: to know how to incorporate management information systems for strategic direction of an organisation, to examine the different Management Information Systems that can be implemented for business productivity, to discover how can Management Information Systems support and improve business operations and processes across different organisational departments and also to provide references for efficient implementation of Management Information Systems for improved organisational performance.

4.2 Categories of Management Information Systems

There are different categories of MIS and these are Transaction processing system (TSP), Information providing system (IPS), Decision support system (DSS) and Programmed decision-making system (Berisha-Shaqiri, 2014). A Transaction processing system is a system intended for processing daily transactions in an organisation by gathering and handling data in bulk and in the process supports junior level management in carrying out their duties. An Information Providing System (IPS) on the other hand is a system intended for processing information, producing information summary and also producing reports. The reports are important in giving a brief picture of the available information and also the performance. Decision support system (DSS) support in boosting the logical capacity of a decision maker while a Programmed decision-making system is a plan for the automated solution of an issue. Therefore, automated decisions are implemented so that decisions are made by the system instead of a person.

4.3 Management Information Systems Acceptance

During the evaluation of data, it was observed that the acceptance level of MIS differs within businesses and also with the type of an MIS. According to Davis (2003), there are different factors that result in some systems being more or less acceptable than others. Davis made a focus on computer user fulfilment to appraise the use of the system and this adopted psychology to come up with the factors that can impact user satisfaction. The factors include Perceived Usefulness, External variables, Perceived Ease of Use, Attitude Toward, Behavioural Intention and Actual System. Other factors by other authors are self-efficacy (Economides, 2011), perceived enjoyment (Teo, 2011) and facilitating conditions (Terzis, 2011).

On the evaluated data, 10 authors touched on the acceptance of MIS and the different measurements for the factors in an organisation. The following measurements are in terms of Usefulness and Ease of Use:

Table 1: Usefulness Measures

Measurement	Number of Authors
Improving the quality work	3
Giving greater control over the work	1
Enables completion of tasks quickly	5
Increasing productivity	8
Increasing job performance	4
Improving effectiveness on the job	8
Ease of doing the job	7

Table 2: Ease of Use Measures

Measurement	Number of Authors
Cumbersome to use	3
Ease of operation	9
Inflexible to use	4
Easy to remember how to carry out tasks	2

4.4 Usage of Management Information Systems

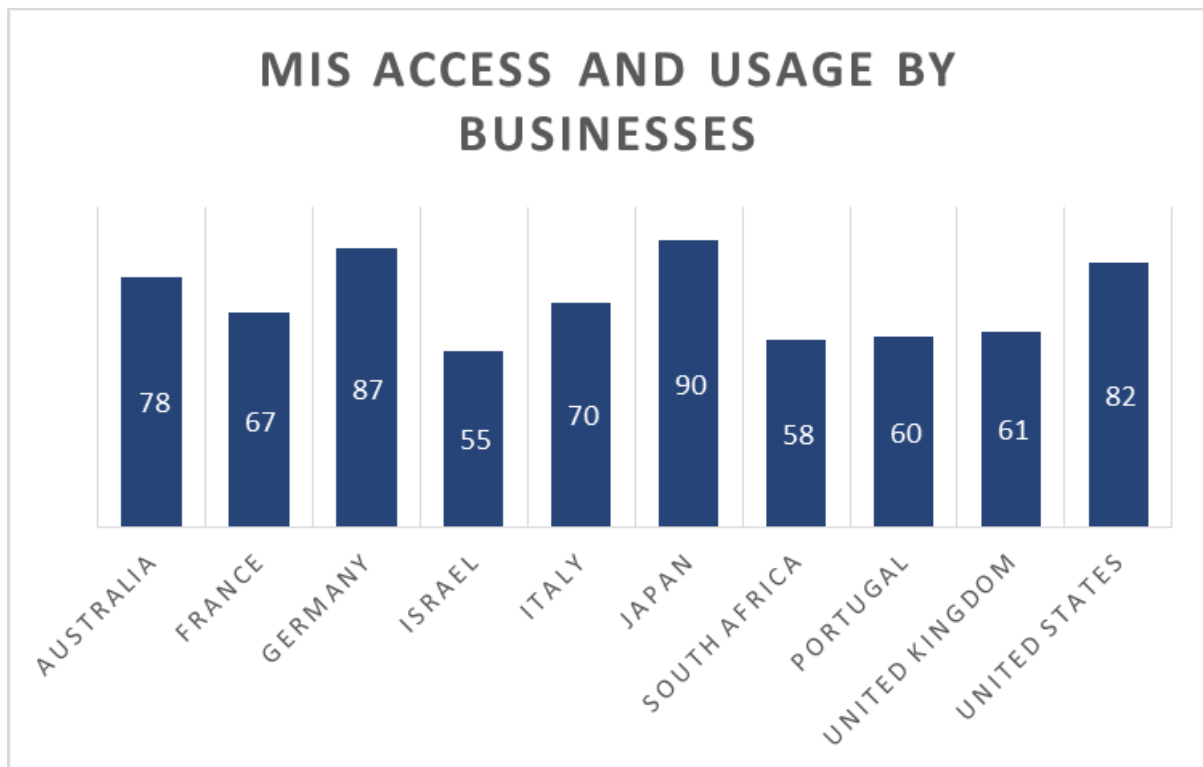
The past decades have seen an increase in the use of technologies and companies have also adopted technologies in the operations. In Spite of the factors affecting the acceptance of MIS, their adoption by businesses have also been increasing over the years. Many businesses have arguably adopted and used MIS due to benefits which include cost reduction, improvement in productivity, quality, and improved decision-making (Bernroider, 2008). An analysis of businesses in different countries have shown an increase of the use of MIS over the past 10 years. The following table shows the percentage of MIS usage in businesses on 10 countries in different continents:

Table 3: MIS Access and Usage Businesses (Past 10 Years)

Country	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Australia	76	76	76	77	77	77	79	80	82	82	78
France	63	65	64	67	66	65	69	72	70	70	67
Germany	82	84	86	87	87	89	89	88	88	89	87
Israel	54	55	53	55	56	54	59	59	55	52	55
Italy	65	67	69	71	71	72	71	72	73	71	70
Japan	87	88	89	90	88	90	90	92	92	92	90
South Africa	48	50	50	51	52	53	67	70	71	71	58
Portugal	52	54	59	61	63	65	63	59	61	62	60
United Kingdom	62	62	63	65	66	73	66	52	54	49	61
United States	81	81	81	80	84	82	84	84	83	84	82

The following figure shows the average percentage of the 10 countries over the past 10 years:

Figure 1: Percentage of MIS Access and Usage Businesses



There are a number of factors that contribute to how and why an MIS is adopted. There are a number of concepts that directly address the adoption and usage, and these include the technology acceptance model by (Davis, 1989), and the unified theory of acceptance and use of technology (Venkatesh et al. 2003). These concepts vary within each continent and this leads to varying adoption and usage across the continents.

4.4.1 Encouraging MIS usage: MIS Training

One of the key success factors identified in many studies to increase the use of MIS is training on the use of any MIS implemented. Without training, the rate of MIS adoption by users is lowered and this affects the processes of the business and in the process delays the business from attaining its goals (Nelson, 2005). Businesses invest a lot of money in implementing management information systems in their aim of keeping with competition. Nonetheless, their investment can be a success only when the users positively adopt the system (Rondeau, 2010). The training helps the users to acquaint themselves with the system, grow their skills which they will use with the system and in the process improve their performance and productivity. Therefore, the subsequent objective of MIS training is skill

generation and development which enhance organisational performance (Eldridge & Nisar, 2006).

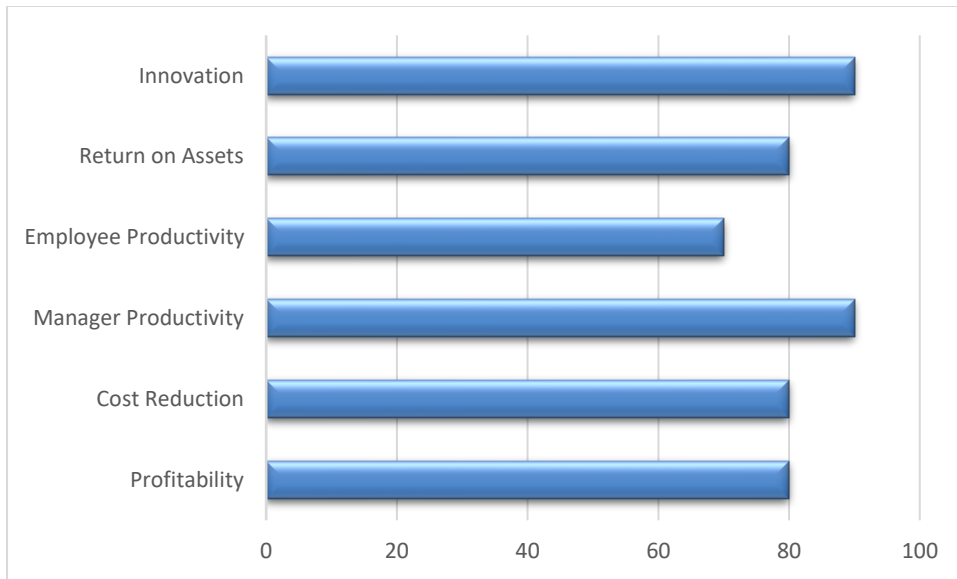
4.5 MIS on Organisational Performance

There are a number of studies that have investigated the impact of technologies on organisational performance. According to Chang & King (2005), a major advantage from the use of MIS is the “cutback in costs of business processes. In a survey conducted by Chang & King on a number of businesses, they enquired managers to assess the cost reductions and business returns realised as a result of developed and implemented systems. Chang & King found that 80% of the business reported that business returns were improved by the use of the systems as well as cost reduction. The remaining percentage cited a number of factors that resulted in loses, the key being the lack of skill of using the systems. MIS does not only help in the financial performance only, but also helps in the non-financial aspects. Some of the non-financial measures on the use of MIS that have been studied on businesses include return on assets (Kaspar & Cerveny, 2005), product quality, productivity and innovation. The table below shows the findings of the impact of MIS on business performance from 10 organisations:

Table 4: Performance Measures on Organisations

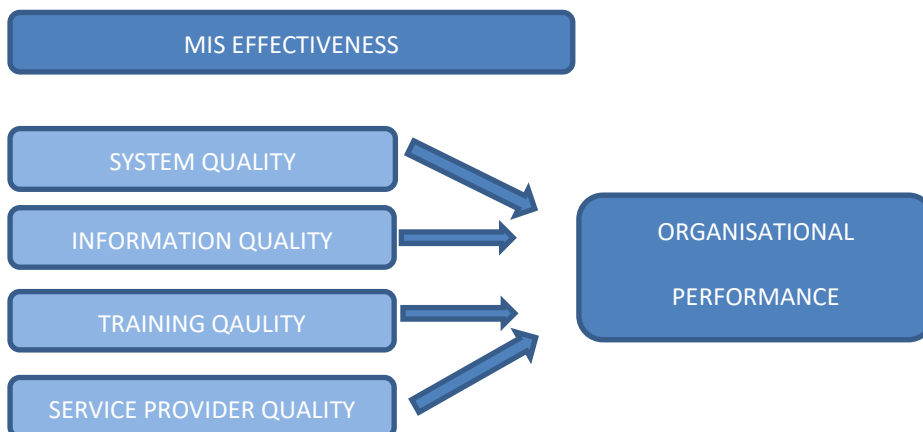
Measure	Number of Organisations	Percentage
Profitability	8	80%
Cost Reduction	8	80%
Manager Productivity	9	90%
Employee Productivity	7	70%
Return on Assets	8	80%
Innovation	9	90%

Figure 2: Percentage of MIS Impact on Measures



According to Chang and King (2005), an MIS is an open system, meaning it has inputs and outputs which can be either the MIS resources and its capabilities. MIS resources can be identified in three main groups which are technological, relationships and human (Bharadwaj, 2000). These groups have to work together in order to for an MIS to be effective and ultimately increase organisational performance as indicated in figure 3.

Figure 3: MIS Resources for Organisational Performance

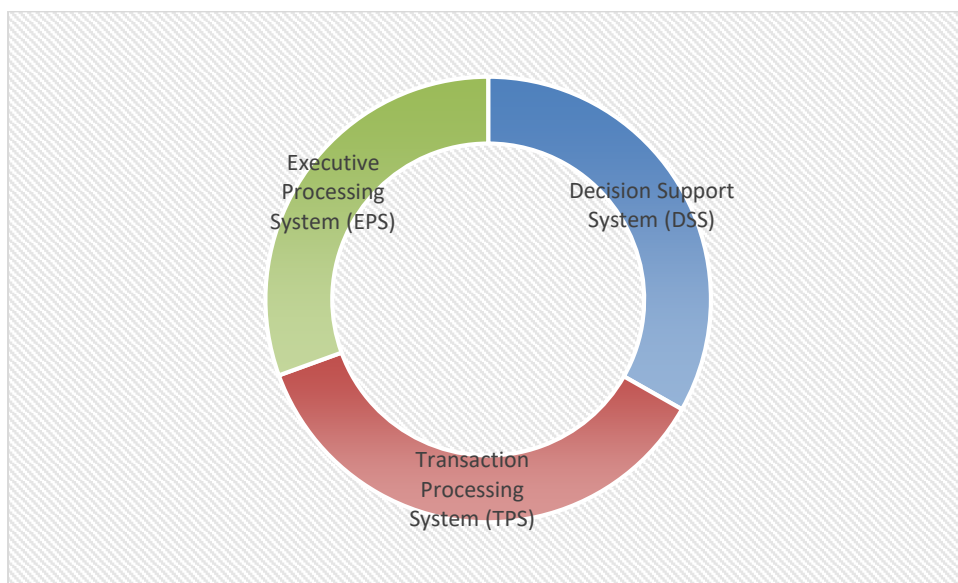


4.6 MIS for Competitive Advantage

There have been some previous efforts to study the link between MIS and corporate strategy, whereby MIS can support corporate strategy and goals. According to Bharadwaj (2000), an

MIS is able to play a major role in a business if the business strategy is used as the source for coming up with MIS strategy. The strategic role of an MIS encompasses adopting information technology to come up with products and services that give a business a strategic advantage over its competitors (Bharadwaj, 2007). This results in strategic management information systems that are capable of supporting the competitive position and approaches of a business. Therefore, an MIS can be used as a strategic tool to support an organization achieve competitive advantage, reduce competitive weakness and also attain other tactical business objectives (Sircar et al., 2000).

Figure 4: Competitive Benefits of MIS



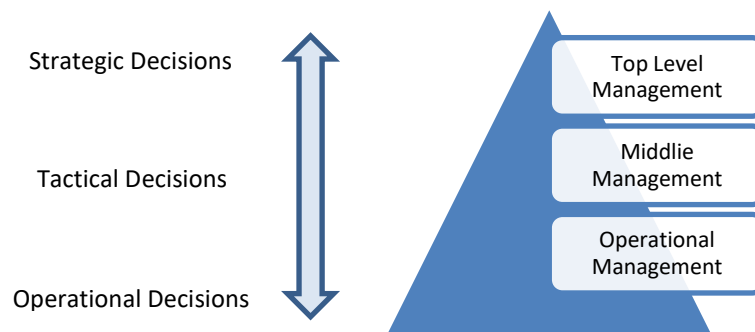
Porter (2006), outlined that MIS has an effect on competition in three essential ways: by changing industry structure and, in the process changing the rules of competition, granting businesses new ways to outpace rivals and also driving out whole new business, usually from within a business' present operations. Competitive advantage can be either external or internal. External advantage can occur through following a new market, gaining higher competitive advantage and also offering improved quality services than rivals (Avlonitis et al., 2001). Internal advantage occurs through improving staff job satisfaction, improving staff domain knowledge and also improving staff innovative competence (Van Riel et al., 2004).

4.7 MIS on Strategic Decision Making

A management information system is known to support business in decision making since it is able to produce reports that can help guide management on making their decisions. This

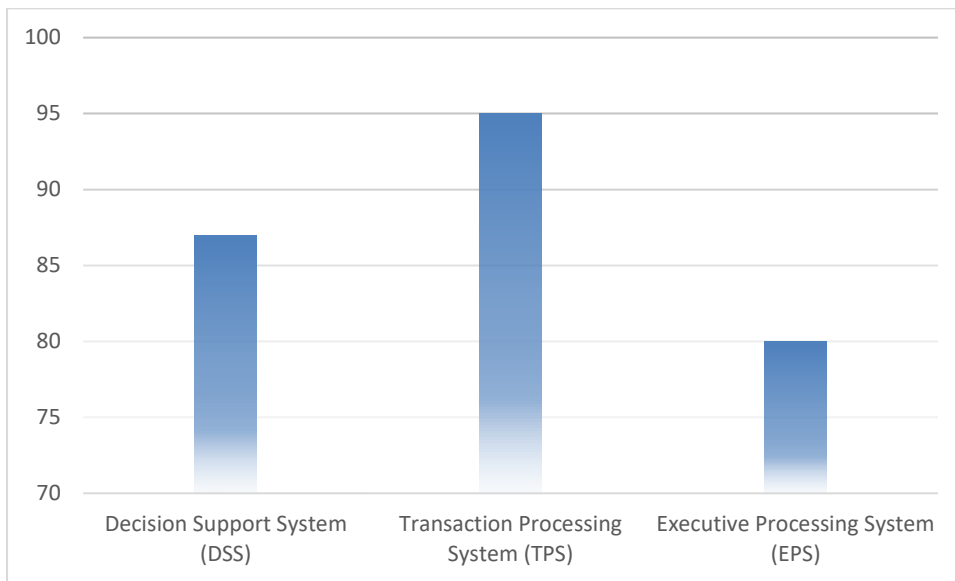
can be done through the Decision Support System (DSS), Transaction Processing System (TPS) and Executive Processing System (EPS), which are systems which are designed to analyse business data and then presents it efficient and effective decision making (Al-Zhrani, 2010). The MIS works on data that has already been inputted in order to give out reports and it is usually used across the business. Top level management uses the system for strategic decisions, middle management uses it for tactical decisions and while first line supervisors uses it carry out their daily operational decisions (Kumar, 2006).

Figure 5: Business Decision Making



It is important that a business has quality and reliable data in order for the MIS to effectively produce reliable reports which will lead to reliable decisions (Jahangir, 2005). Jahangir states that without proper MIS, it is be really hard for businesses to make effective decisions. The reason for this conclusion is that the business is required to come up with baseless data because of the lack of established data. Therefore, an MIS acts as a stable foundation for coming up of effective decisions with the use of organised tools, timely data and suitable management policies. A large number of organisations reported to observe improved strategic decision-making after they adopted and implemented MIS in their operations. This improvement results in improvement of the whole performance of the business.

Figure 6: Mostly used Decision Making Systems



4.8 Challenges and Limitations of MIS

Regardless of all the good benefits related with the use of MIS in business processes, there are also a number of challenges and limitations that reduce the usefulness of MIS. According to George (2008) one of the challenges include high cost of running MIS. Some businesses, especially those small in size find it too costly to implement and run an MIS. Another challenge is that some MIS are not adaptable and training is usually inadequate (Laudon, 2006). Proper training should be given to employees in order to learn the system and without this training it will be hard for the business to be competitive.

While an MIS may help resolve some serious problems, it has a limitation of not being able to act as a solution to all problems of a business (Frenzel, 2004). An MIS is a general system and cannot meet the unique needs of each person. If an MIS is improperly designed, it will not be able to meet the needs of management and in the process become of little use. For the system to effectively produce effective reports, timely and relevant data should be made available.

CHAPTER FIVE

5.0 CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

This chapter outlines a summary of the results and conclusions as a result of carrying out this study. The chapter will also outline limitations and recommendations for further research for colleagues who would need to conduct research in this area in the future.

5.2 Summary and Recommendations

The key aim of this study was to find how management information systems can be used as strategic tool for a business. The previous chapter shows the impact of MIS on the different aspects of a business. It is noteworthy that technologies such as MIS have proven to be of high importance in the running of organisations and it is important that they embraced and used to improve organisational processes. The MIS have proven to support business in their strategic direction and they are a good tool to adopt for enhancing their performances. The analysis in the previous chapter showed that MIS has a huge contribution in organisational Performance. The performance can be either financial or non-financial as indicated by Kaplan, (2004). The use of MIS as a strategic tool has been observed as crucial for organisational performance since the adoption of MIS can be incorporated in the overall strategy of the business.

This study contributes to current research in a number of ways. It improves our knowledge on MIS usefulness as we revised DeLone and McLean's model (2003) of MIS success to integrate new elements from new research. The findings of this study contribute to the MIS usefulness research as there is a limited research that focus on using MIS in a business to achieve its strategic goals. This way of using MIS can of good help for businesses to increase their performances towards their goals. The study provides significant findings on the MIS aspects that plays a major role to the financial and also non-financial performance of a business.

The findings of the study show that an MIS can be used for strategic decision making within a business. Decision making is fundamental in strategically directing a business and business can rely on the use of MIS to ensure that take make decisions. These decisions are made throughout the business from the operational management to the top management and this

means that in the day-to-day operations, an MIS can be incorporated. An MIS can be a base for reliable and effective decisions through the use of well-organised tools, timely data and suitable management policies and this will eventually contribute to the whole performance of the business. As the performance of the business improves, the competitive edge of the business also improves. An MIS can help drive a business to achieve competitive advantage through innovation and improved quality services among other aspects.

The study has also outlined that MIS training is crucial on ensuring the success of an MIS. The users need to be properly trained in order to guarantee the proper adoption and usage of an MIS, thus ensuring its effectiveness. Therefore, while a business invests money in implementing MIS, training should not be left behind. In their aim of keeping with competition. Training helps the users to gain and develop enough skills for efficiently using the system, and in the process improve their performance and productivity.

Further studies can rely and build on this research to improve the knowledge of management information systems within businesses. Future studies can reproduce this study by looking on the key issues that results in the differing uptake and usage of MIS across the different continents. The study showed that the usage of MIS across businesses in the different continents varied a lot. This was a limitation of this study since it did not look deep into the issues which may be unique to different countries. Future studies can be directed towards a assenting issue analysis to bring more understanding on the factors that are more influential to the success of Management Information Systems. It is believed that the findings of this study can generate new directions to this area of study and broaden the knowledge. After this systematic analysis, it can be concluded that the study contributes key knowledge into the MIS field by outlining on how MIS can be used as a strategic tool for a business.

References

- Alavi, M. and Leidner, D. E. (2001). "Review: *Knowledge Management and Knowledge management Systems: Conceptual Foundations and Research Issues*", 25(1):107-136.
- Al-Mashari, M., Al-Mudimigh, A. and Zairi, M. (2003). 'Enterprise resource planning: a taxonomy of critical factors', *European Journal of Operation Research*, 146(2)..
- Al-Zhrani, S. (2010). *Management information systems role in decision-making during crises: case study*. *Journal of Computer Science*, 6(11), 1247-1251.
- Argyropoulou, M., Ioannou, G. and Prastacos G.P.(2007). 'ERP Implementation at SMEs An initial study of the Greek Market', *International Journal of Integrated Supply Management*, 3(4).
- Ankit Bhatnagar. (2006). *Strategic Information Systems Planning: Alignment of 'IS/IT' Planning and Business Planning*, Unitec New Zealand.
- Berisha-Shaqiri, Aferdita. (2014). Management Information System and Decision-Making. Academic journal of interdisciplinary studies MCSER publishing, Rome-Italy. 3. 10.5901/ajis.2014.v3n2p19.
- Bowman, B.; Davis, G; Wetherbe, J. *Three stage model of MIS planning. Information and management*, 6(1):] 1-25; 1983.
- Brynjolfsson, E. (1996). 'The contribution of information technology to consumer welfare', *Information Systems Research*, 7(3).
- Chan, F.T.S., Chan, H.K. and Qi, H.J. (2006.) 'A review of performance measurement systems for supply chain management', *International Journal of Business Performance Management*, 8(2/3).
- Chang, J.C.J. and King, W.R. (2005). 'Measuring the Performance of Information Systems: A Functional Scorecard', *Journal of Management Information Systems*, 22(1).
- Choi, J. N. (2009). *Collective Dynamics of Citizenship Behavior: What Group Characteristics Promote Group-Level Helping*. *Journal of Management Studies*.
- Davis, F.D. (1993). *User acceptance of information technology: system characteristics, user perceptions, and behavioral impacts*. *International Journal of Man Machine Studies*.
- Delone, W. H., McLean, E. R. (2003). *The DeLone and McLean model of information systems success: a ten-year update*. *Journal of management information systems*, 19(4), 9-30.

- Eldridge, D. and Nisar, T. M. (2006). '*The Significance of Employee Skill in Flexible Work Organizations*', International Journal of Human Resource Management, 17(5).
- Economides, A. A. (2011). '*The acceptance and use of computer based assessment*', Computers & Education, 56(4), 1032-1044.
- Emery, J.C. (1971). '*Cost/Benefit Analysis of Information Systems*', SMIS Workshop Report, (I), The Society for Management Information Systems, Chicago.
- Gray, P. H. (2000). *The effects of knowledge management systems on emergent teams: towards a research model*. The journal of strategic information systems, 9(2), 175-191.
- Gupta, A. K. (2008). *Management Information Systems*. S.Chand & Company Ltd
- Henderson, J. C., & Venkatraman, N. (1993). *Strategic alignment: Leveraging information technology for transforming organizations*. IBM System Journal,32(1),4-16.
- Hirschheim, R. and Smithson, S. (1988). *A critical analysis of information systems evaluation*, in: Bjorn-Andersen, N. and Davis, G.B. (Eds.) Information Systems Assessment: Issues and Challenges. Amsterdam: Elsevier Science.
- Huang, A. H. (2002). '*A three-tier technology training strategy in a dynamic business environment*', Journal of End User Computing, 14(2).
- Kumar, P. K. (2006). *Information System—Decision Making*. IndianMBA. Retrieved October 2, 2010 from http://www.indianmba.com/Faculty_Column/FC307/fc307.html
- Locke, L. F., Spirduso, VV. VV., & Silverman, S. J. (2007). *Proposals t1wt work: A guide for planning dissertations and grant proposals (5th ed.)*. Thousand Oaks, California: Sage Publications.
- Melville, N., Kraemer, K. and Gurbaxani, V. (2004). *Review: Information technology and organizational performance: An integrative model of IT business value*. MIS Quarterly, 28(2)
- Mohammed, A.N.A.M. & Hu, W. (2015). *Using Management Information Systems (MIS) to Boost Corporate Performance*. Journal of International Business Research and Marketing, 1(11), 55-61., 283-322.
- Mooney, J.G. Gurbaxani, V. and Kraemer, K.L. (1996). '*A process oriented framework for*

- assessing the business value of information technology*', *DATA BASE for Advances in Information Systems*, 27(2), Spring.
- Nelson, (2005). '*Antecedents of information and system quality: an empirical examination within the context of data warehousing*', *Journal of Management Information Systems*, 21, pp.199–235.
- O' Brien, J. and Marakas. G. (2008). *Management information systems*. 7th Edition
- Petter, S., DeLone, W. and McLean, E. (2008). '*Measuring information systems success: models, dimensions, measures, and interrelationships*', *European Journal of Information Systems*, 17.
- Porter, M. E. (2001). *Strategy and the Internet*. *Harvard Business Review*, Vol. 79, No. 3
- Ranganathan, C., Kannabiran, G. (2004). *Effective management of information systems function: an exploratory study of Indian organizations*. *International Journal of Information Management*, 24(3), 247-266.
- Ravichandran, T., Liu, Y., Han, S. and Hasan, I. (2009). '*Diversification and firm performance: exploring the moderating effects of information technology spending*', *Journal of Management Information Systems*, 25(4).
- Ravinchandran T. and Lertwongsatien C. (2005). '*Effect of Information Systems Resources and Capabilities on Firm Performance: A Resource-Based Perspective*', *Journal of Management Information Systems*, 21(4).
- Ray, G., Muhanna, W.A. and Barney, J.B. (2005). '*Information technology and the performance of the customer service process: a resource-based analysis*', *MIS Quarterly*, 29(4).
- Rhodes, J. (2010). *The Role of Management Information Systems in Decision Making*. eHow. Retrieved October 2, 2010 from http://www.ehow.com/facts_7147006_role-informationsystems-decision-making.html
- Rondeau, P.J. Ragu-Nathan, T.S. and Vonderembse (2010). '*The Impact of IS Planning Effectiveness on IS Responsiveness, User Training, and User Skill Development within Manufacturing Firms*', *International Management Review* 6(1).

- Santhanam, R. (1994). *'Improving end-user proficiency: effects of conceptual training and nature of interaction'*, Information Systems Research 5 (4).
- Shin, N. (2006). *The impact of information technology on the financial performance of diversified firms'*, Decision Support Systems 41,(4).
- Somers, T.M. and Nelson, K.G . (2004). *'A taxonomy of players and activities across the ERP project life cycle'*, Information & Management 41(3).
- Strassmann, P. (1997). *Will big spending on computers guarantee profitability?'*, *Datamation*, 43(2), February, pp.75-82.
- Teo, T. and Noyes, J. (2011). *'An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach'*, Computers & Education, 57(2).
- Tallon, P.P. and Kraemer, K.L. (2007). *'Fact or fiction? A sensemaking perspective on the reality behind executives' perceptions of IT business value'*, Journal of Management Information Systems, 24(1).
- Wagner, Christian. (2004). *Enterprise strategy management systems: Current and next generation*. The Journal of Strategic Information Systems. 13. 105-128.
10.1016/j.jsis.2004.02.005.
- Wang, E.T.G., Tai, J.C.F. and Wei, H.-L. (2006). *'A virtual integration theory of improved supply-chain performance'*, Journal of Management Information Systems, 13(2).

Appendix 2: Ethics Review Checklist



Zoom out (Ctrl+Minus)

UU_EC - Version 1.0



ETHICS REVIEW CHECKLIST

This checklist should be completed by the student undertaking a research project which involves human participants and must be checked and signed by the dissertation tutor. The checklist will identify whether an application for ethics approval needs to be submitted to the Unicaf Research and Ethics Committee (UREC), or not. Before completing this form, you should refer to the guidelines in your Programme (available in VLE) on ethics policy and procedure. As the principal researcher, you are responsible for exercising appropriate professional judgement in this review. You should append a copy of the checklist in your final project or dissertation submission.

Student's Name: Mduduzi Dlamini

Student's E-mail Address: princemdu93@gmail.com

Student's ID #: R2005D10835730

Supervisor's Name: Giorgos Georgiou

University Campus: Unicaf University Zambia (UUZ)

Program of Study: MBA- Management Information Systems

Research Project Title: Management Information Systems: A strategic tool for business

	Yes	No
1. If the study will require the cooperation of a gatekeeper for initial access to groups or individuals to be recruited (e.g. students, employees of a company, members of a self-help group), will you be <u>unable</u> to obtain this?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will the study involve discussions of or responses to questions which participants might find sensitive? (e.g. substance abuse, traumatic experiences).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Could the study induce psychological stress or anxiety, or cause harm or negative consequences, beyond the risks of everyday life?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. If the study will involve participants who are unable to give informed consent (e.g. children under the age of 16, people with learning disabilities), will you be unable to obtain permission from their parents or guardians (as appropriate)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Are there any problems with the participants' right to remain anonymous, or to have the information they give not identifiable as theirs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Will the study involve prolonged (more than an hour at a time) or repetitive testing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		Yes	No
7.	Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.	Will deception of participants be necessary during the study?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.	Does the study involve access to confidential information?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.	Is the right to withdraw from the study at anytime withheld, or not made explicit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If you have answered YES to any of these questions you must submit further details of your proposal using Unicaf University Research Ethics Application Form (REAF) and other related documentation for approval by UREC. A decision will then be returned to you by e-mail. Further details available on your dissertation webpage on VLE.

If you have answered NO to all questions, give or send the completed checklist to your tutor/dissertation supervisor for signature. He / she should discuss your proposed research and the ethical implications of this. You should keep a signed copy and attach it to your final project or dissertation submission. Please note that even if this is the case, it is still your responsibility to follow the guidelines on ethics policy and procedure in the conduct of your study as these are described in International Ethical Guidelines for Health-related Research Involving Humans, Geneva (2018) <https://cioms.ch/wp-content/uploads/2017/01/WEB-CIOMS-EthicalGuidelines.pdf>

NOTE: When any doubt arises in relation to the above, always forward your application to your tutor.

All materials submitted will be treated confidentially.



I have read and understood the guidelines on Unicaf University ethics policy and procedures.

Student's Signature: _____



Supervisor's Signature: _____

Date of Application: 28-Mar-2022

