IMPACT OF ARTIFICIAL INTELLIGENCE ON BUSINESS PERFORMANCE (A CASE STUDY OF SELECTED SMES IN ILORIN METOPOLIS)

BY

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CERTIFICATION

This project has been read and approved as meeting the requirements for the award of National Diploma (ND) Business Administration and Management, Institute of Finance and Management Studies, Kwara State Polytechnic Ilorin, Kwara State.

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DEDICATION

This research work is dedicated to God for His Mercies on me. It is also dedicated to my Parent **Mr. & Mrs. Rasak**

Acknowledgement

All glory, adorations belong to God for His Mercies on me right from my childhood to this stage.

My profound gratitude goes to my project supervisor in person of **Mr. Ibrahim B.A** for taking his precious time in going through this research work and his efforts to make this project successful one; I pray God will always intervene into your matters.

My inexplicable and inexpressible gratitude goes to my parent **Mr. & Mrs**. **Rasak** for their care on me right from childhood till this stage, may the lord elongate their lives to reap the fruit of their labor. I also appreciate my siblings for their support and alsofor their series of advices all time.

I cannot forget my friends and colleagues.

I really appreciate you all.

ABSTRACT

The importance of information has led to the integration of other components in order to improve information gathering. This research focuses on the impact of artificial intelligence on business performance of selected SMEs in Ilorin metroplois. The objective of this research work is to investigate the effect system quality on organizational performance. The research work also examines the effect of informational quality on business performance. The source of data collection in this research was primary and secondary sources of data collection. The study employed a descriptive survey research design, and which seeks to explain the relationship that exists between the dependent variable (Management information system) and independent variable (business performance). Population of this study consisted of selected SMEs in Ilorin metroplois. The study found that system quality has significant impact on organizational performance. The study shows that information quality has positive influence on business performance. The study also found that service quality can positively influence organizational performance. The study also recommended that businesses should make sure there is an effective channel of communication on both the inside and outside links

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Today's business world has become highly competitive, and it takes organisations which have timely information, and use them appropriately to thrive. The need to gather relevant information has become quite challenging that most organisations would part with fortunes just to have it in possession. Information gets today's top organisation ahead of others who do not have it. The importance of information has led to the integration of other components in order to improve information gathering, interpretation and usage in order to help the management make better decisions. However, the easily accessible loads of information that is available in today's world of business has also necessitated the need to manage the information overload acquired. Therefore, organisations have heavily invested in information systems because they seek to maintain their competitiveness in order to remain in the market (Thomas, 2008).

As far as the accelerated pace of technological developments in the field of production is concerned, there has also been an evolution in the means of communication and transmission of information. Thus, growing competitive organisations have been forced to take quick and effective decisions thereby resulting to the effectiveness of organisational performance (Belkur, Mehta, Shafter, & Amar, 2017). Therefore, organisations now need tools to aid them to make quick and automated decisions. Adding to ways to reduce uncertainty, only an effective MIS can mitigate these challenges (Obara, 2013).

Management Information System is a flow of procedures for data processing based on the computer, and integrated with other procedures in order to provide information in a timely and

effective manner to support decision making and other management functions. The use of management information systems for more is a key factor for the production of new products and services, to collect information on activities, products produced, productivity, hiring new employees, tracking stocks etc. While earlier information systems have played a more important role in the organisation and development of enterprise information systems today and new technologies and applications for them are oriented more towards the process of governance and control as the main base of manufacturing activities, purchasing, supply etc. According to Muhamet Mustafa (1995) computing systems represent subsystems connection information into a unique whole structural and conceptual aim of computerization of processes in the enterprise. The information processed in the management information system interconnects all levels of government ranging from highlevel planning and strategic placement, planning and tactical deployment, as well as planning and deployment of operational control.

The structure of the computing system according to levels of management activity is divided into: information systems and operational control; information systems knowledge bases; information systems for the control of management; information systems to support decisions; information systems strategic planning by Brian K.Williams & Stacey C. Sawyer (2001); The importance of a decision is necessarily equal to the importance of the information on which it is based to decide it. Some researchers have based their findings on the contrast between productive firms and unsuccessful organisations (efficient administrations and inefficient administrations), the fundamentals of their success in process of making decisions, the amount of inaccurate decisions have eliminated the hopes and aspirations of large organisations and vice versa. An administration equipped with the necessary information and the required characteristics achieves better results, and at the

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same time, the incompleteness and misleading information will lead to unsuccessful management. The success of organisations depends on the rate of their management efficiency in successful decision-making. Information is the main ingredient on which decisions are made with regards to the level of accuracy, comprehensiveness and good timing in the provision of information; these factors will increase the efficiency of those decisions (Asma, Larbi, & Samiha, 2017; Ghazi & Hu, 2015; Thanasripanitchai, 2017). Business managers today must react to the competitive threats not only from local sources but also from regional, national and international sources; likewise they must seek to explore all opportunities that are available in the immediate, national and Global environment. Deregulation has also increased competitive pressure for organisations to survive, grow and prosper. In such a competitive environment, managers must employ a lot of the resources at their disposal as efficiently as possible so as to accomplish the objectives and goals of the enterprise. Management Information System provides information in the form of reports and displays to managers and many business professionals. For example, sales managers may use their networked computer and web browser to get an instantaneous display about the sales results of their daily sales analysis report to evaluate sales made by each sales personnel.

Management Information System also takes into account the integrative nature of information flow as well as the structuring of the organisation around decision centres. Standards of performance are part of any good plan; hence, determination of standards like other aspects of the planning process depends on the availability of relevant management information system. Management information systems aid the functioning and monitoring of an organisation. It also describes the components and resources to ensure the proper functioning of an organisation (Munirat 2014).

1.2 Statement of the Problem

The general problem of the study is the growing need of managers to manage the information at their disposal in order to help them make quality decisions towards the effectiveness and efficiency of their organisations. Hence, the specific problems of the study are:

The quality of the system with which information is acquired, processed and managed will determine how effective the management will be. However, many organisations fail to install the appropriate system quality to enhance their management information system thereby hindering the effectiveness of the whole system. Many organisations are facing intense competition today as a result of globalisation and technological advancement. The availability of information about lots of business concepts today at almost no cost has made it quite difficult for any business to keep their business secret in order to have an edge over competitors. Organisations which offer the best quality service at a reduced price are the ones which win the heart of customers. However, the inability of organisations to install systems to help them provide quality service to their customers has cost them a large part of their market share.

1.3 Research Questions

The under listed questions will serve as a guide to the study:

1.   How does system quality affect organisational performance?

2.   To what extent does information quality influence organisational performance?

3.   What is the significant relationship between service quality and organisational performance?

4.   How does user proficiency affect organisational performance?

1.4   Research Objectives

The general objective of the research is to determine impact of artificial intelligence on business performance of selected SMEs in Ilorin metroplois. The main objectives of the study are:

1.   To examine the effect of system quality on organisational performance.

2.   To determine the extent to which information quality influences organisational performance.

3.   To investigate the relationship between service quality and organisational performance.

4.   To examine the effect of user proficiency on organisational performance.

1.5 Research Hypotheses

The following hypotheses were formulated for this study:

H0- There is no significant effect of system quality on organisational performance.

H0- There is no significant influence of information quality on organisational performance.

H0- There is no significant relationship between service quality and organisational performance.

H0- There is no significant impact of user proficiency on organisational performance.

1.6 Significance of the Study

This study will reveal the relationship between management information systems and organisational performance in the banking industry, thereby increasing the practical application of management information systems to solving managerial issues in the industry. Also, the study would contribute significantly to the body of existing literature on the field of management information system and business performance. It will also act as a stimulant for further research into the field, thereby providing for further solutions to the challenges of businesses. Furthermore, knowing the impact of management information systems on business performance will help organisations understand how to improve and implement their

management information system in order to enhance their management effectiveness and decision making.

Lastly, the study would be useful to educational institutions as an instructional material to equip students with relevant knowledge in management information systems and its application in the banking industry thereby fostering knowledge in tertiary institutions.

1.7 Scope of the Study

This study focuses on some selected deposit money banks in the Ilorin metropolis, the types of MIS used in these banks, and how their MIS affects their performance. This study would not consider other financial institutions like microfinance banks.

1.8Operationalisation

$Y = f(X)$

Y=Dependent Construct X =Independent Construct

X- MIS x1 System quality x2 Information quality x3

Service quality x4 User proficiency

Y- Business performance y1

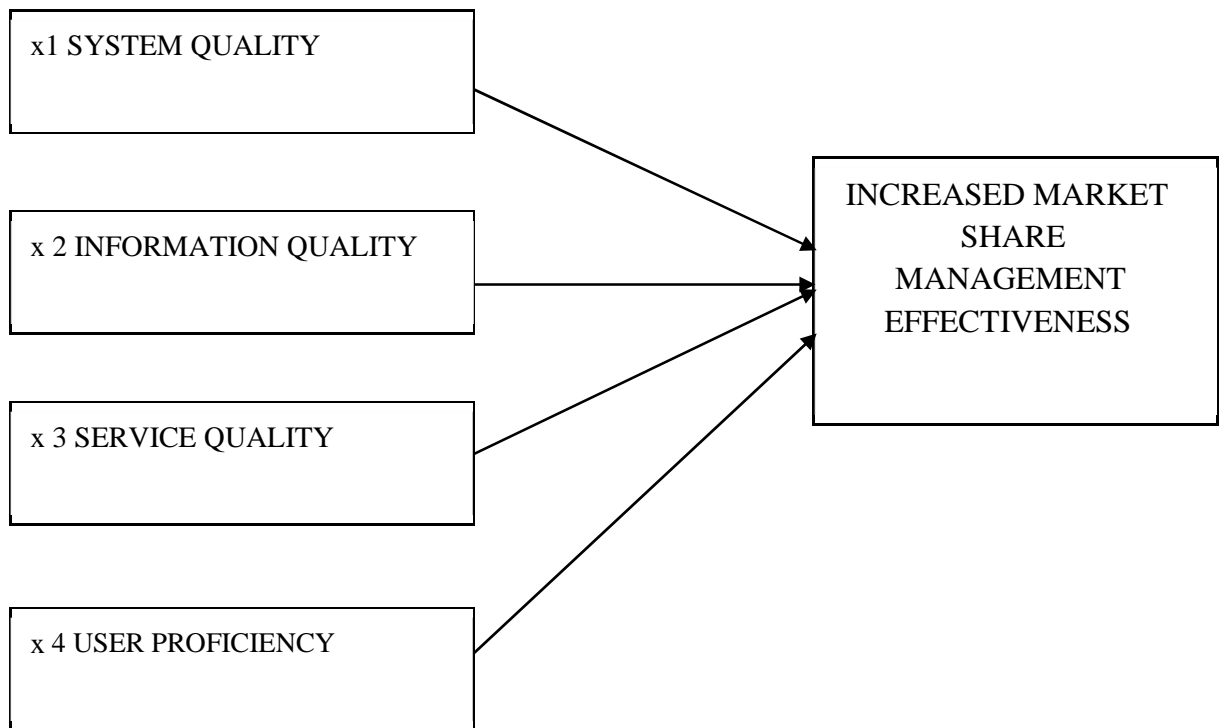Increased market share y2

Management effectiveness

Independent variable(X)   Dependent variable (Y)

MIS

PERFORMANCE   BUSINESS

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┌─────────────────────────────┐
│ x1 SYSTEM QUALITY           │
│                             │
└─────────────────────────────┘
                                              ┌─────────────────────────┐
┌─────────────────────────────┐               │ INCREASED MARKET        │
│ x 2 INFORMATION QUALITY     │               │ SHARE                   │
│                             │               │ MANAGEMENT              │
└─────────────────────────────┘               │ EFFECTIVENESS           │
                                              └─────────────────────────┘
┌─────────────────────────────┐
│ x 3 SERVICE QUALITY         │
│                             │
└─────────────────────────────┘

┌─────────────────────────────┐
│ x 4 USER PROFICIENCY        │
│                             │
└─────────────────────────────┘
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Management information: Management information refers to the data and information that is collected, processed, analysed and presented to support decision-making, planning, and control activities within an organisation. It includes a range of data and information from financial and accounting data to performance metrics and key performance indicators (KPIs), as well as reports, dashboards, and other tools used to communicate information to managers and executives.

System quality: System quality refers to how well an organisation's accounting system provides accurate, timely, and useful financial information in a cost-effective manner, while ensuring the security, reliability, and accessibility of the system.

Management information system (MIS): Management information system (MIS) is a computer-based system that collects, processes, stores, analyses, and disseminates information from various sources within an organisation to provide managers with timely and accurate information to make informed decisions.

Globalisation: Globalisation is the process of increasing interconnectedness and integration of markets, economies, and cultures around the world, facilitated by advances in technology, transportation, and communication. It has created a global economy with increased opportunities and challenges, as well as greater cultural exchange and awareness.

Business: Business is the production and sale of goods or services with the aim of making a profit. It involves identifying customer needs, product development, marketing, and managing finances and operations, and can take different forms and operate in various industries. The success of a business is measured by its profitability, growth, and ability to adapt to changing markets.

Decision making: Decision making is the process of choosing the best option to achieve specific objectives. It involves analysing information from various sources and requires good judgement and problem-solving skills. Effective decision making is crucial for achieving business success.

CHAPTER TWO

LITERATURE REVIEW

2.1 Preamble

This chapter critically explains literature relevant and related to this research work. It reviews the conceptual, empirical, and theoretical aspects of literature related to the study.

2.2 Conceptual Review

This subsection is aimed at explaining the major concepts and variables that make up this study. The independent variables explained in this subsection, used in this research work to measure MIS (which is an independent construct in this study) are system quality, service quality, information quality, and user proficiency. The dependent variables used in this research work to measure business performance (which is the dependent construct in this study) are increased market share and management effectiveness.

2.2.1 Management Information System (MIS)

Management information system can be defined as a support to management to provide the competitive advantage which must support the goals of the organisation, Kenneth and Jane Laudon (2003); Dos Santos (1991), define management information system as a planned system of collecting, processing, storing, disseminating data in the form of information needed to carry out the functions of management. It can also be a documented reports of the activities, planned and executed.

Oladejo (2007) describes MIS as a system using formalised procedures based on data from both internal and external sources, to enable decision makers make timely and effective decisions, for planning, directing and carrying out the activities for which they have appointed.

This connotes that MIS is a system responsible for the collection, processing and communication of defined data in order to enhance prompt decision making. All this requires a strong understanding of both technology and business practices (McLeod, 1995). Weihrich and Koontz [2001] define Management Information system as a functional system of gathering, comparing, analysing, and dispersing internal and external information to the enterprise in a timely, effective, and efficient manner. Management information system use formalised procedures to provide management at all levels in all functions with appropriate information based on the data from both internal and external sources to enable them to make timely and effective decision for planning, directing and controlling the activities for which they are responsible.

An effective management information system typically employs computer and other sophisticated technology to process information that reflects the day to day operations of the company. Based on the above, a management information system is an integrated manual computer system that provides information to support the operations of management and the decisions making functions of a company. Management information system is also a collection of people, procedures and devices organised to convert data from internal and external sources into information and communicate such information in an appropriate form to management at all levels. The Management Information System shows that communication is needed to carry out the managerial functions and for linking the organisations with its external environment.

Management Information System provides a communication link that makes the activities and responsibilities surrounding management or managers possible, (Burns, 1998).The focus in Management Information Systems coupled with improved processing has led to the reduction in bottlenecks attached to management process. Managers have re-organized

for years so that traditional accounting information aimed at the calculation of profit have been of limited value for control. Yet in many companies, this has been virtually the only regularly collected and analysed type of data. Managers need all kinds of non accounting information about the external environment such as social, economic, political, and technical development. In addition, managers need non accounting information on internal operations. The information should be quantitative.

2.2.2 Objectives of Management Information System

Robert (2000), explains the objectives of management information systems as the provision of information to all levels of management at the most appropriate time at an acceptable level of accuracy and at an economical cost, such information is used in the decision making process for modifying the state of the system by taking appropriate action. An essential requirement of MIS is feedback which is the process of communicating a system measured output to a control system which generates an effective control system, normally a manager in respect of a business system. It is these factors which allow the state of a system to be modified.

2.2.3 Elements of Management Information System

The elements of Management Information System are the inputs/outputs control, storage and process.

Input: This includes the keyboard, the data users, punch cards, computer operation and programmes.

Processing: Processing refers to the task performed before the input is generated into output.

Output: This is the result generated after processing the input [data].

Storage: Storage refers to the main and auxiliary memory. The storing of data is the basis of the information system.

Control: This refers to the various measures taken to ensure timeliness, accuracy, and cost Effectiveness

2.2.4 Characteristics of a Good Information System

According to Kenneth (2002),effective management information system posses numerous qualities among which are the following:

Relevance: This type of information characteristics is of the truth. The overriding quality information must be relevant to the problem being considered; though information may take different forms. Examples are: reports, messages, tabulation e.t.c. The positive effect it has on the problem or needs at hand will mainly be the functions of its relevance otherwise. The absence of this quality relevant will make understanding the message more difficult and may eventually cause frustration to the user.

Accuracy: Information should be sufficiently accurate for it to be relied upon by those in the management team and for the purpose for which it is intended. Even though absolute accuracy may not be obtainable, yet the level of accuracy must be related to the decision level involved. Also, accuracy should not be confused with precision. Information may be inaccurate but precise or vice-versa.

Time: Good information is that which is communicated in time to be used. The time of regular produced information is essentially important in this regards. In fact, information should be produced at a frequency which is related to the type of decision or actually involved.

Details: Information should contain the least amount of details consistent with effective decision making. The level of details usually varies with the level in the organisation.

2.2.5 Problem of Implementing a Computer Based Management Information System Dickson [1970] identified some major factors that determine whether the implementation of a new MIS will be resisted and to what event they are:

Disrupting of established departmental boundaries: The establishment of a new MIS often results in change in several organisations units.

Participation: In designing and implementing MIS features users should be made members of the MIS team operating mangers, in particular they should have a particular say in the item to be included. The disposition of the entire information and possible job modification, if the entire design and implementation process is taken over by technology.

Communication: The aim and characteristics of the system should be communicated to all members of the MIS team as well as the users.

Redefinition of performance measurement: A new MIS may modify a manager's job to the point where old methods of performance evaluation no longer apply or is no longer applicable. For this reason MIS calls for proper evaluation.

2.2.6 Benefits of Management Information System

Linda banks (2003) propose that Successful implementation of MIS would possibly bring the following:

1. Possible clerical cost reduction

2. Improved processing demonstrated by more accurate results.

3. Intangible benefits such as customer relationship.

4. Improved work environment and job satisfaction.

2.2.7 Problems of Management Information System in Nigeria

The users of MIS results into a situation where a relatively little success in providing management with information is achieved and the following reasons are responsible:

1. Lack of management involvement in the design of MIS.

2. Narrow and/or inappropriate emphasis of the computer system.

3. Undue concentration on low level data processing application.

4. Lack of management knowledge of computer.

5. Poor appreciation by information specialist of management information requirement and organisational problems.

6. Lack of top management support.

2.2.8 Limitation of Management Information System in Nigeria

Although the information system plays a vital role in modern organisations, they are not without their limitations. In particular, information systems have some basic limitations. Kenneth and jane laudon(2001).

1. Information systems are expensive and difficult to develop and implement.

2. Information systems are not suitable for all tasks or problems.

3. Information provided to managers may not be as accurate, timely, complete or relevant as it appears.

4. Managers may have unrealistic expectations of what information systems can do.

5. The information system may be subject to sabotage, computer viruses or down time.

2.2.9 Organisational Performance

In the early 50's organisation performance was defined as the extent to which organisations viewed as social systems achieved their objectives (McNamara 2010). Later between 1960 and 1970 organisations had begun to discover new ways to assess their performance, as a

result organisational performance was defined as an organisational ability to exploit its environment for gain access to and use the limited resources (Yuchtsman & Seashore, 1967).

In between 1980 and 1990 there was an understanding that identification of organisational objectives was a more complicated process than what was considered at first, Directors started to comprehend that an organisation is just prosperous if it successfully achieves its objectives using least resources (effectiveness). Along these lines, the consequent organisational hypotheses held to the possibility of an organisation that accomplishes its performance purposes in spite of the imperatives forced by restricted resources (Lushes & Adrian, 1998). In this viewpoint, benefit has been one of the numerous measures of performance.

Institutional performance is an arrangement of financials and non-financial related pointers which give understanding with regards to the level of accomplishment of objectives and results (Lawrimore & Noble, 2009). There are two main measures of firm performance. The first one is financial whereas the second one is non-financial. Financial performance is a measure concerned with the firm's overall financial wellbeing over a predetermined time period. Financial measures include the ratios, the firm's profitability and the overall health of the balance sheet. The other measure of organisational performance is non- financial (qualitative). Put in another way, these are intangible measures. Pearson and Robinson (2002) contend that the earlier measures of financial performance, give insufficient or in some cases, an erroneous perspective of the status of the business and its capability to keep growing. They further argue that a company should persistently try to find ways to grow and enhance its qualitative measures. Some of the measures of nonfinancial performance include customer base, branch network, employees, customer satisfaction and customer base. Kaplan and Norton (2008) agree with the view that quality improvement must be a

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process unto infinity. Performance is the goal of every organisation. It refers to the end result of activities while strategic planning aims to improve these results.

2.2.10 Increased Market Share

Market share refers to the percentage of sales a company has in a specific market within a specific time period. Higher market share translates into higher profits. Gaining or building market share is an offensive or attack strategy to improve the company's standing in the market (Sarkissian & Schill, 2010). Market share is a measure of the consumers' preference for a product over other similar products. A higher market share usually means greater sales, lesser effort to sell more and a strong barrier to entry for other competitors. A higher market share also means that if the market expands the leader gains more than the others. By the same token, a market leader - as defined by its market share - also has to expand the market, for its own growth (Schnaars, 1998).

There are many different ways to increase market share; companies usually use a combination of strategies. Sometimes something as basic as increasing advertising can have huge effects, as can adjusting pricing. Breaking products into groups and targeting them at specific demographics can also increase this percentage, as can making of complementary products. Another strategy is improving the product or service itself, which can attract customers from competitors, though this can be difficult, so many companies try to grow along with a growing market rather than trying to take business from the competition (Sliden, 2014 cited in Ong'ong'a, 2005).

Market share is a key indicator of market competitiveness; how well a firm is doing against its competitors. This metric, supplemented by changes in sales revenue, helps managers

evaluate both primary and selective demand in their market. It enables them to judge not only total market growth or decline but also trends in customers' selections among competitors. Generally, sales growth resulting from primary demand (total market growth) is less costly and more profitable than that achieved by capturing share from competitors. Conversely, losses in market share can signal serious long-term problems that require strategic adjustments. Firms with market shares below a certain level may not be viable. Similarly, within a firm's product line, market share trends for individual products are considered early indicators of future opportunities or problems (Armstrong & Greene,

2007).

2.2.11 Management Information System and Organisational Performance

Organisational performance has received a great boost as a result of the Information, the information system handles the flow and maintenance of information about significant people, places and things within the business environment/organisation" (Jackson, 1997). It is important to note that effective organisational performance partly depends on IS to enhance production, effective decision making, and strategic planning. Further, "it has been claimed that to be competitive in today's high-tech environment world, organisations need to offer specialised services and develop an innovative strategy that employs new technologies, especially IS" (Williams, 2005). These technologies allow organisations to recognize the beneficial impacts of IS as an enabler of high standard performance. "High quality performance, efficiency and effectiveness represent critical challenges that most modern organisations face". In the light of these challenges, "IS becomes an important strategic ingredient that helps create competitive advantage and supports organisational

survival" (Kaplan, 1992). On the other hand, organisations are required to adopt new technological devices and tools that support them in obtaining more benefits especially in the economic orientations which have become one of the most critical technologies and have claimed that IS constitutes more than 70% of the invested capital in the service industry (Mathis, 2006). Therefore, the rapid growth of IS and the associated reflections on organisations, market and industries, have created a widely held belief that IS

(Information System) is fundamental to organisational survival and development (Ahed & Louis, 2008).

Researchers are still struggling to identify the underlying link between the information system and organisational performance. "Research has indicated that effective and efficient use of information systems is a major factor differentiating successful organisations from their less successful equivalents" (Robert, 2006). Furthermore, challenges such as reducing cost, increasing efficiency and improving performance have led organisations today to implement new organising mechanisms to improve performance which include IS. Thus,

IS represents a practical response from organisations to overcome these challenges (Akata, 2003). From this practical viewpoint, the importance of IS to organisations is very dear, especially when it affects organisational processes, mechanisms, and the ways the organisations function. Thus, "this dynamic mechanism pressures organisations to become digital so as to better respond to the external environments more rapidly than traditional organisations, giving them more flexibility for survival in the turbulent environment.

2.3 Theoretical Review

The theories that will be used to evaluate and show relationship between MIS and business performance are systems theory of management and resource-based view (RBV) theory.

2.3.1 Systems Theory of Management

Herbert Simon, introduced in his book, Administrative Behavior (1947), the concept of systems process in decision-making within organisations. The Systems Approach to management theory, commonly viewed as the foundation of organisational development, views the organisation as an open system made up of interrelated and inter-dependent parts that interact as subsystems.

Thus, the organisation comprises a unified singular system made up of these subsystems. For example, a firm is a system that may be composed of sub systems such as production, marketing, finance, accounting, and so on. As such, the various sub-systems should be studied in their inter-relationships rather than in isolation from each other. The system as a whole is affected by internal elements (aspects of the sub-units) and external elements. It is responsive to forces from the external environment. The system is considered open, as organisations receive varied forms of inputs from other systems. For example, a company receives supplies, information, raw materials, etc. These inputs are converted to outputs that affect other systems. Generally, the systems approach assesses the overall effectiveness of the system rather than the effectiveness of the sub-systems. This allows for the application of system concepts, across organisational levels in the organisation - rather than only focusing upon the objectives and performances of different departments (subsystems).

Organisational success depends upon interaction and interdependence between the subsystems, synergy between the sub-systems, and interaction between internal components (closed system) and external components (internal system). The systems approach implies that decisions and actions in one organisational area will affect other areas. For example, if the purchasing department does not acquire the right quantity and quality of inputs, the production department won't be able to do its job. This approach recognizes that an organisation relies on the environment for essential inputs. Further, the environment serves an outlet for its outputs.

The work of Ludwing Von Bertalanffy (1973) recognized the need of any organisation to interact with its external environment, unlike what was proposed by classical school theorists like Max Weber, F. Tailor and Fayol who viewed organisation as closed system. To him, for survival of an organisation like the way living organisms survive, it should operate in open system and not a closed system. This is what made his work to make system concepts become recognized world-wide as an approach to be adapted by organisations for their efficiency and effectiveness in the dynamic and changing environments. Today organisations are perceived as an open ended process of coordinating purposeful individuals whose actions stem from applying their unique interpretations to the particular situations confronting them. For instance, in the current situation, an organisation which will not be sensitive to its environment will hardly survive. Things like technology, social and economic phenomena are not static but are always changing, hence organisations are needed to adapt in order to survive.

It is also through interaction with its external environment the organisation gets its inputs in term of raw material, labour and process them, and lastly emits as output to its environment for selling or capital investment.

Every organised enterprise does not exist in a vacuum. It is rather known to depend on its external environment – which is a part of a larger system, such as the industry to which it belongs, the economic system and the society (Weihrich 2008).

2.3.2 Resource-Based View

The resource based view (RBV) analyses other aspects, taking into account internal strengths and weaknesses. A firm's resource perspective generates the core competencies and competitive advantage for specific business activity, RBV defines resources as tangible and intangible assets within the firm. According to Barney, (1991) ,the resource based view is based on the concept of productive resources. Normally firms establish their specific resources which they keep on reviewing in order to respond to shifts in the changing business environment. Hence, firms must come up with dynamic capabilities which are adaptable to the environmental changes (Pettus, 2001). Capability is the key role of strategic management to ably adapt, integrate and reconfigure internal and external organisational skills, resources and functional capabilities to match the requirements of a changing environment. Combined capability, skills and right resources are necessary ingredients used by service providers to make quality products.

RBV theory puts more emphasis on the firm's internal resources rather than external opportunities and threats created by industry conditions. The theory maintains that in order to generate sustainable competitive advantage a resource must provide economic value and

must be presently scarce, difficult to imitate, non-substitutable and not readily obtainable from markets. The theory also relies on two key points; first that resource are determinants of firm performance and second that resources must be rare, valuable, difficult to imitate and non-substitutable by other rare resources. When the latter occurs a competitive advantage has been created (Priem & Butler, 2001).

2.4 Empirical Review

Munirat (2014) investigated various challenges and prospect of MIS in Nigeria. The study was conducted in Federal Capital Territory, Abuja, North-Central Nigeria with the use of questionnaires and interviews to collect data. The study reported that use of ISs was encouraged by the technological breakthroughs; the advancements in telecommunications such as the internet, the globalisation that created a global unlimited marketplace, the strong growth for the information economy, and the rise of competitive digital firms. All of these factors transformed the ISs from data processing systems to decision support systems and became the foundation of the new business environment.

Beccalli (2007) investigated how investment in information technology (IT); hardware, software and other IT services influence the performance of banks. Using a sample of 737 European banks over the period 1995–2000, Beccalli (2007) analysed whether IT investment is reflected in improved performance (measured using both standard accounting ratios and cost and alternative profit efficiency measures). Despite banks being major investors in IT, Beccalli (2007) found little relationship between total IT investment and improved bank profitability or efficiency indicating the existence of a profitability paradox. However, the impact of different types of IT investment (hardware, software and services) on

banks' performance is heterogeneous. Investment in IT services from external providers (consulting services, implementation services, training and education, support services) appears to have a positive influence on accounting profits and profit efficiency, while the acquisition of hardware and software seems to reduce banks' performance.

AL-Gharaibeh and Malkawi (2013) studied the impact of management information systems (MIS) on the performance of governmental organisations ,using Jordanian Ministry of Planning as a case study. The sample consisted of 77 employees in the ministry and data was collected using a questionnaire as the research instrument. The study found that there is no impact of hardware and software equipment on the performance of governmental organisations, there is a significant impact of networks, individuals and procedures, and management information system as a whole on the performance of governmental organisations. At the end researchers recommended that the ministry should update MIS continuously, engaging employees in building systems, and train them on the system.

Muhammad and Asfandyar (2012) examined the impact of MIS training on the performance of the AG office Peshawar (kpk) employees. The study concentrated on the importance of core know-how of SAP (system application product), and the employees' performance are measured with the help of SAP. The data have been collected through primary and secondary data, conclusion has been drawn from questionnaires which have been tabulated and presented through diagrams. The result indicated that the SAP program enhances the operation more quickly than operated manually before, only entry is required and verification by authorised users are acquire to process all record.

Naranjo (2009) analysed the role of the top management team in the relationship between management information systems and strategic performance. The study collected data from

92 top management teams to analyse how different team compositions interact with a sophisticated management information system, and how this interaction affects strategic performances, which are focused on cost reduction and flexibility. The study found that the effect of management information systems on strategic performance (focused on flexibility) is moderated by top management team diversity, individual and firm marketing performance.

A theoretical model was presented linking organisation and end user traits, information quality, system /service quality, industry traits and tasks performed using a system to perception of organisational performance impact through ease of system use, perceived individual performance impact, attitudes toward using the system, and system use. The results indicate that measures of organisational traits, individual traits, information quality, system service quality, industry traits and tasks performed using the system significantly impacted perceived performance of the marketing organisation mediated by individual performance impact, attitudes toward using the system, and system use.

Kasasbeh (2007) studied "The role of information technology in improving corporate performance: A Case Study Jordanian Free Zones Corporation". This study aimed to determine the role of information technology in improving the efficiency of the performance of the Free Zones Corporation Jordan during the period 1996 – 2005. The study collected primary data using questionnaires from 197 workers. The study found that there was an improvement in all elements of information technology, with differences in the rates of improvement, there was no significant correlation between the size of the investment, hardware, software, and workers in the field of information technology with all

the effectiveness of the institutional performance indicators except for the goal of return on cost. There was no impact for each of the size of the investment, hardware, software, and workers in the field of information technology at all effective institutional performance indicators except for the goal of return on cost.

Al Meetany (2004) investigated The impact of the management information system to improve the efficiency and effectiveness of the Jordanian Commercial Banks using Arab Bank as a case study. This study aimed to identify the impact of the management information system to improve the efficiency and effectiveness of the Arab Bank from the perspective of both the staffs and the Arab Bank management in dealing with customers. The study found that users of management information systems were highly skilled and experienced which enabled them to perform their work to the fullest, and that an appropriate degree of information provided by the systems used were very high and reflected thus on the effectiveness of decision-making. Also, Arab Bank operated efficiently by providing hardware and software required for operation of the system, as evidenced by the study on the existence of a positive relationship between the linear size of investment in management information systems and the bank's profits. Greater volume of investment in management information systems increased the bank's profits.

2.5 Gaps in Literature

Having examined lots of research studies that have been carried out on management information systems and its impact on business and organisational performance, it has been observed that only few of those research focused on academic institutions. The effect of the management information system on academic institutions has not received much attention,

therefore this research work would focus on the impact of MIS on academic institutions and the role it plays in their performance.

In addition, previous researches did not examine the cost of implementing MIS in various departments and how this affect other areas of the organisation.This research would try to identify the cost benefit aspect of implementing MIS in organisation ,so that firms considering investing in MIS can have a holistic view of investing in MIS, and how to adequately plan for it before venturing into implementation.

Lastly, most of the previous research did not recommend the appropriate implementation strategies of MIS for optimal results, therefore this research study would aim at recommending the most appropriate implementation strategies of MIS for academic institutions in order to proffer solution to the challenge of optimising the use of MIS.

CHAPTER THREE

METHODOLOGY

3.1 Preamble

This chapter consisted of the research method, research design, population of the study, sampling technique and sample size determination, data collection method, Instrument administration, validity and reliability of the instrument, method of data analysis, measurement of variables, and ethical consideration.

3.2 Research Design

The design for this study is descriptive survey research design. The term survey research means the collection and analysis of responses of large samples of people through polls and questionnaires designed to elicit their opinions, attitudes, and sentiments about a specific topic

According to Ordhos (2003) descriptive survey research designs are used in preliminary and exploratory studies to allow researchers to gather information and summarise present and interpret data for the purpose of clarification.

Ghauri and Gronhaug (2005) have reputed surveys as very effective in attaining opinions, attitudes, and descriptions, as well as cause and effect relationships. Saunders (2011) additionally posit that the survey strategy is frequently linked to the deductive approach, thus, explaining quantitative data as being analysed using descriptive and inferential statistics Surveys also require selecting populations for inclusion, pre-testing instruments, determining delivery methods, ensuring validity, and analysing results.

3.3 Research Method

This research will involve collection of data from a fairly large group of people; therefore a survey method will be adopted. This will enable the researcher to get access to primary sources which will provide valid and reliable information.

3.4 Population of the Study

A population refers to a set of all possible cases of interest in a given research activity. According to Agyedu, Donkor and Obeng (2007) population 'refers to the complete set of individuals (subjects), objects or events having common observable characteristics in which the researcher is interested in studying'. Population therefore referred to a selected group of people set aside for a specific purpose. The study is concentrated on all the academic staff of Kwara State University,Malete.

3.5 Sampling and Sampling Techniques

Sampling is a systematic process used to select a required portion of a target population. In this study, probability random sampling techniques would be used in collecting data; this is because of the ease of the techniques. Kothari (2004) defined probability sampling as a procedure where every item of the population has an identical chance to occur as an element of the sample. The goal is to obtain a sample that is representative of the larger population. Random sampling technique was adopted in getting the respondents to answer the questionnaires. The technique ensures that every member of the population has an equal chance of being selected. It is therefore unbiased.

3.6 Sample Size Determination

The sample size determination will be calculated using Taro-Yamane (1967). Taro formula is conceived with the application of normal appreciation with 95% confidence level and 5% error tolerance.

Formula: $n = N / (1 + N(e^2))$

Taro-yamane (1967)

Using the acquired population size of 1300 from research, the formula becomes:

$n = 507 / (1 + 1300(0.05^2))$

Calculating the equation: $n =$

$507 / (1 + 1300(0.0025))$ $n =$

$507 / (1 + 3.25)$ $n = 507 /$

4.25 $n \approx 150$

Rounding up to the nearest whole number, the recommended sample size would be approximately 150 for a population of 507, assuming a 5% margin of error and a 95% confidence level.

3.7 Collection of Data

This research will collect primary data from respondents using questionnaires as a research instrument. The reason for using questionnaires is to ensure completeness and consistency of information gathered. The result will be used as input for statistical analysis.

3.8 Research Instrument

The research instrument is a tool used to gather data for analysis, in order to draw inferences from the result as relating to the research. This research therefore will adopt a questionnaire

as a research instrument. Questionnaire is suitable for the nature of this research being a survey research. Questionnaires allow the researcher to collect data from a large number of respondents within a short period of time. The questionnaire will be made up of a list of questions relating to the objectives of the study and the hypotheses to be verified to which the respondents will be required to answer. Section A consists of demographical data of the respondents. Under the demographical data, questions ranging from gender, age to higher area of discipline will be asked. Section B contained questions aimed at generating responses based on the variables of the research. Questions will be prepared in form of statements and the researcher will arrange them using a likert scale format raging from lowest to highest 'strongly disagree (1), disagree (2), undecided (3), agree (4) and strongly agree (5)'.

3.9 Validity of Research Instrument

Validity is the extent to which the research instrument measures what it was to measure. For the validity of the research instrument, the face and content validity methods were adopted. Using the face validity method, the researcher would request an expert (the supervisor) in the field to assure that the items measured what they were intended to measure. Secondly the researcher would make use of the content validity which focuses on the conceptualization and the operationalization to ensure that all the concepts were covered.

3.10 Reliability of the Research Instrument

Research reliability relates to the consistency in results obtained. There are various methods of testing the reliability e.g. test re-test, split half test e.t.c. For the purpose of this research, test re-test method was adopted.

3.11   Method of Data Analysis

Descriptive statistics would be employed to analyse the data. Descriptive statistics has to do with presenting the data collected in tables and diagrams and also calculating the percentages, averages, measures of distribution and the correlation i.e. the degree of the relationship existing two variables so as to explain the data (Offredy & Vickers, 2010). The researcher will analyse the data collected from the respondent using frequencies and simple percentages. The researcher will further use Statistical Package for Social Sciences (SPSS) software to fully analyse the data by coding the items and entering them into the SPSS for analyses. The researcher would run a regression analysis to infer the relationship that exists between the independent variable and the dependent variable.

3.12   Ethical consideration

While carrying out the research, the respondents will not be put under pressure nor intrude their privacy in any way. The information gathered will be treated with extreme caution and the identity of respondents remains confidential.

In addition, this research is objective and will not be biassed in analysing and presenting the results obtained. This research will avoid any form of inappropriate use of information such that will affect the safety of the respondents. The research methodology adopted was appropriately, object

CHAPTER FOUR

DATA PRESENTATION AND RESULTS

This chapter present in details the result and interpretation of the collected field data obtained from the survey questionnaires. In the course of the analyses of the data, table of frequency and percentages were used. The demographic characteristics of the respondents are presented in table of frequency and percentage. The responses of respondents to this study on several questions and testing of research hypotheses form the basis of the analysis in this chapter. Regression analysis was used to test the formulated hypotheses.

4.1. Data Presentation.

Table 4.1.1: Analysis of Response Rate of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Retrieved	100	66.67	66.67	66.67
Non retrieved	50	33.33	33.33	100.0
Total	150	100.0	100.0	

Source: Researcher's Field Survey, 2023.

Table 4.1.1 shows the response rate of the administered questionnaires. Out of 150 questionnaires that were administered, 100 questionnaires were retrieved. This signifies

66.67% retrieval rate.

Table4.1.2   Distribution of the Respondents based on Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
	Male	53	52.5	53.0	53.0
	Female	47	46.5	47.0	100.0
Valid	Total	100 1	99.0	100.0	
Missing	System		1.0		
Total		101	100.0		

Source: Researcher's Field Survey, 2023

The gender distribution of the sampled respondents as shown in table 4.1.2 indicates that 52.5% of the respondents are male while the remaining 46.5% of the respondents are female.

Table 4.1.3   Age Distribution of the Respondents

Age Range

		Frequency	Percent	Valid Percent	Cumulative Percent
	26 - 30 years	40	39.6	40.0	40.0
	31 - 35 years	36	35.6	36.0	76.0
Valid	36 years and above	24	23.8	24.0	100.0
	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		101	100.0		

Source Researcher's Field Survey, 2023.

Table 4.1.3 depicts the age distribution of the respondents. 39.6% are between the ages 2630 years, 35.6% are between 31-35 years, and 23.8% are between 36 years and above.

Results shows that majority of the respondents are between 26-30 years age range.

Table 4.1.4   Distribution of the Respondents based on marital status

Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
	Single	25	24.8	25.0	25.0
	Married	67	66.3	67.0	92.0
	Divorced	2	2.0	2.0	94.0
	Others	6	5.9	6.0	100.0
Valid	Total	100	99.0	100.0	
Missing	System	1	1.0		
Total		101	100.0		

Source Researcher's Field Survey, 2023

Table 4.1.4 show the marital status of the respondents. 25% of all the respondents are single, 67% are married, 2% are divorced and 6% are others. Most of the respondents are married.

Table 4.1.5: Educational qualification of Respondents

Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Diploma/NCE	6	5.9	6.0	6.0
Valid HND/BSc	44	43.6	44.0	50.0
MSc/PhD	50	49.5	50.0	100.0
Total	100	99.0	100.0	
Missing System	1	1.0		
Total	101	100.0		

Source: Researcher's Field Survey, 2023

Table 4.1.5 reveals the educational qualification of the respondents. The table indicated that 6% of the respondents have Diploma/NCE, 44% have B.Sc/HND, 50% have

M.Sc/PhD. This distribution shows that the entire respondents are duly qualified to give relevant information on the study.

Table 4.1.6   Distribution of the Respondents based on Department

	Frequency	Percent	Valid Percent	Cumulative Percent
Administrative	69	68.3	69.0	69.0
Others	30	29.7	30.0	99.0
Valid				
Non-administrative	1	1.0	1.0	100.0
Total	100	99.0	100.0	
Missing System	1	1.0		
Total	101	100.0		

Source: Researcher's Field Survey, 2023

The departmental distribution of the sampled respondents as shown in table 4.1.6 indicates that 69% of the respondents are Administrative while the remaining 30% of the respondents are others.

Table 4.1.7   Distribution of the Respondents based on Tenure Tenure

	Frequency	Percent	Valid Percent	Cumulative Percent
1 - 2 years	51	50.5	51.0	51.0
3 years and Valid above	49	48.5	49.0	100.0
Total	100	99.0	100.0	
Missing System	1	1.0		
Total	101	100.0		

Source: Researcher's Field Survey, 2023

The tenure distribution of the sampled respondents as shown in table 4.1.7 indicates that 51% of the respondents have 1-2 years while the remaining 49% of the respondents have 3 years and above.

4.2 SECTION B: Analyses of Research Questions and Results Interpretation This research question was analysed based on questionnaire responses from respondents in section B questions number 1-20

Research Question on system quality

Table 4.2.1: Descriptive statistics of mean and standard deviation on system quality for the management information system and its effect on organisational performance.

Statistics

		Principles laid down in the organisation are been followed by all employees	There is an ethics guiding the organisation's environment	All the levels of management in KWASU are working effectively and efficiently	System of operation is very worst and not properly managed	Errors are been prevented in the organisation through having a good system quality
N	Valid	100	100	100	100	100
	Missing	1	1	1	1	1
Mean		1.85	1.12	2.85	4.44	1.38
Median		2.00	1.00	3.00	5.00	1.00
Std. Deviation		1.158	.327	1.123	.743	.488

Source: Researcher's Field Survey, 2023

Table 4.2.1 shows the mean responses and standard deviation on system quality. The table further shows that System of operation is very worst and not properly managed has the highest mean value of 4.44 and Principles laid down in the organisation are been followed by all employees has the highest standard deviation.

Research Question on information quality

Table 4.2.2: Descriptive statistics of mean and standard deviation on information quality for the management information system and its effect on organisational performance.

Statistics

	Data quality has been one of the characteristics of the top management of the organisation	There is an effective chain of communication among the employees and the management	Having information quality is not important in determining business performance	Objectivity of the organisation has been achieved through information quality	Information quality management is been adopted by the management of the organisation
N Valid	100	100	100	100	100
Missing	1	1	1	1	1
Mean	1.33	3.03	4.51	3.20	3.22
Median	1.00	3.00	5.00	3.00	3.00
Std. Deviation	.620	1.439	.732	1.271	1.106

Source: Researcher's Field Survey, 2023

Table 4.2.2 shows the mean responses and standard deviation on information quality. The table further shows that Having information quality is not important in determining business performance has the highest mean value of 4.51 and There is an effective chain of communication among the employees and the management has the highest standard deviation.

Research Question on service quality

Table 4.2.3: Descriptive statistics of mean and standard deviation on service quality for the management information system and its effect on organisational performance.

Statistics

		Performance of the employees is very high and appealing to the management	Delivering of good quality service is one of the uniqueness of the organisation	KWASU is economically competitive in their respective industry	Customers of the organisation are been treated with good infrastructural facilities	Feedbacks gotten from the perceived customers are satisfactory
N	Valid	100	100	100	100	100
	Missing	1	1	1	1	1
Mean		2.55	2.22	2.75	3.52	3.08
Median		2.00	2.00	2.50	4.00	3.00
Std. Deviation		1.373	1.219	1.403	1.299	1.405

Source: Researcher's Field Survey, 2023

Table 4.2.3 shows the mean responses and standard deviation on service quality. The table further shows that Customers of the organisation are been treated with good infrastructural facilities has the highest mean value of 4.51 and Feedbacks gotten from the perceived customers are satisfactory has the highest standard deviation.

Research Question on organisational performance

Table 4.2.4: Descriptive statistics of mean and standard deviation on organisational performance for the management information system and its effect on organisational performance.

Statistics

	Employees are the main determinant of the performance of the organisation	High productivity has been achieved through system quality	Management of the organisation always motivate their employees in order to perform efficiently	Resources in the organisation are been well managed	Employees are been satisfied with the job tasks assigned to them
Valid	100	100	100	100	100
N					
Missing	1	1	1	1	1
Mean	1.51	1.92	1.93	4.30	2.42
Median	1.00	1.00	1.00	5.00	2.00
Std. Deviation	1.133	1.346	1.365	1.096	1.224

Source: Researcher's Field Survey, 2023

Table 4.2.4 shows the mean responses and standard deviation on organisational performance. The table further shows that Resources in the organisation are been well managed has the highest mean value of 4.3 and Management of the organisation always motivate their employees in order to perform efficiently has the highest standard deviation.

4.3. Estimating Regression:

The subsequent step is the estimation of the relationship coefficients with the help of ordered probit model technique. The ordered outcomes are modelled to arise sequentially as a latent variable where y crosses progressively higher thresholds. However, the ordered outcomes are modelled to arise sequentially as a latent variable where y crosses progressively higher thresholds. The table 4.3 captures the results of the Ordered probit models: the model 1 captures how employees are the main determinant of the performance of the organisation; model 2 capture how high productivity has been achieved through system quality; how management of the organisation always motivate their employees in order to perform efficiently; how resources in the organisation are been well managed; and how employees are been satisfied with the job tasks assigned to them.

Table 4.3: Estimated Coefficients Using the Ordered Probit Approach

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Employees	High Management	Resources	Employees productivity	satisfied

Researcher's Field Survey, 2023

From the result in Table 4.3, the result shows that the employee's performance of the organisation and the ethics guiding the organisation's environment are increasing in principles laid down in the organisation that are been followed by all employees in model 1 and 2. Conversely, resources in the organisation that are well managed is decreasing with ethics guiding the organisation's environment and increasing with all the levels of management in KWASU are working effectively and efficiently in model 4, likewise in model 3. Similarly, employee's performance of the organisation is increasing in when the system of operation is very worst and not properly managed while employee's satisfaction with the job tasks assigned to them decreases when system of operation is very worst and not properly managed.

Moreso, high productivity achieved through system quality and Management of the organisation that motivate their employees in order to perform efficiently increased when errors are been prevented in the organisation through having a good system quality in model 3. All these regressors outcome imply that effect of system quality is highly significant on organisational performance in the study area.

principleslaiddownintheorganizat	0.220*	0.299***	-0.0631	-0.158	-0.0290
	(0.123)	(0.108)	(0.162)	(0.131)	(0.138)
Thereisanethicsguidingtheorganiz	-0.115	-0.628	-0.673	-0.884*	-0.580
	(0.498)	(0.424)	(0.601)	(0.493)	(0.519)
allthelevelsofmanagementinkwasua	-0.0202	-0.0743	0.236*	0.261*	0.111
	(0.139)	(0.113)	(0.124)	(0.136)	(0.104)
systemofoperationisveryworstandn	0.404**	-0.279	0.246	0.241	-0.243*
	(0.192)	(0.174)	(0.214)	(0.224)	(0.143)
errorsarebeenpreventedintheorgan	0.163	0.740**	0.631*	0.264	-0.260
	(0.345)	(0.292)	(0.330)	(0.386)	(0.288)
dataqualityhasbeenoneofthecharac	0.207	0.351	-1.618***	-0.421	-0.0886
	(0.223)	(0.300)	(0.529)	(0.276)	(0.251)
thereisaneffectivechainofcommuni	0.358***	0.216**	0.211*	-0.141	-0.0852
	(0.112)	(0.0933)	(0.116)	(0.0944)	(0.0813)
havinginformationqualityisnotimp	-0.450**	0.249	0.436**	0.660***	0.134
	(0.189)	(0.181)	(0.186)	(0.180)	(0.165)
objectivityoftheorganisationhasb	0.193	0.307***	-0.123	-0.153	0.164
	(0.140)	(0.103)	(0.117)	(0.116)	(0.112)
informationqualitymanagementisbe	0.245*	0.0206	0.0367	-0.321*	-0.128
	(0.134)	(0.132)	(0.152)	(0.170)	(0.148)
performanceoftheemployeesisveryh	-0.218	-0.491***	0.428***	0.387***	0.282***
	(0.138)	(0.119)	(0.115)	(0.119)	(0.0991)
deliveringofgoodqualityserviceis	0.00543	-0.145	0.330***	0.613***	-0.147*
	(0.135)	(0.107)	(0.101)	(0.170)	(0.0870)
kwasuiseconomicallycompetitivein	0.114	-0.149	0.122	-0.0255	0.0881
	(0.136)	(0.108)	(0.107)	(0.174)	(0.0941)
customersoftheorganisationarebee	-0.141	-0.000585	0.106	-0.0441	-0.0290
	(0.117)	(0.113)	(0.139)	(0.124)	(0.0998)
feedbacksgottenfromtheperceivedc	-0.0294	0.136	-0.0789	0.0158	-0.173**
	(0.120)	(0.0926)	(0.118)	(0.109)	(0.0836)
Constant cut1	3.190**	1.370	4.876***	0.881	-2.307*
	(1.571)	(1.613)	(1.693)	(1.678)	(1.391)
Constant cut2	3.591**	2.486	5.138***	1.447	-1.219
	(1.558)	(1.615)	(1.705)	(1.684)	(1.358)
Constant cut3	4.416***	2.598	6.089***	1.722	-0.125
	(1.559)	(1.607)	(1.737)	(1.660)	(1.345)
Constant cut4		3.126*	6.543***	3.024*	-0.0724
		(1.625)	(1.718)	(1.596)	(1.333)
Observations	100	100	100	100	100

Furthermore, management of the organisation that motivate their employees in order to perform efficiently is increasing in data quality as one of the characteristics of the top management of the organisation in model 3. Employees that determine the performance of

the organisation, high productivity that are achieved through system quality and management of the organisation that motivate their employees in order to perform efficiently is increasing when there is an effective chain of communication among the employees and the management in model 1, 2 and 3. Employees that determine the performance of the organisation is decreasing when information quality is not important in determining business performance while management of the organisation that motivate their employees in order to perform efficiently and resources in the organisation that are well managed are increasing when information quality is not important in determining business performance in model 3 and 4. High productivity achieved through system quality is increasing when objectivity of the organisation has been achieved through information quality. Resources in the organisation that are well managed is decreasing when information quality management is been adopted by the management of the organisation in mode 2. Hence, these regressors significantly determine the extent to which information quality influences organisational performance.

Model 3, 4, and 5 show that, management of the organisation that motivate their employees in order to perform efficiently, resources in the organisation are been well managed and employees are been satisfied with the job tasks assigned to them are increasing when performance of the employees is very high and appealing to the management in mdel 3, 4, and 5 respectively but the inverse is the case when high productivity has been achieved through system quality. Moreso, model 3 and 4 show that management of the organisation that motivate their employees in order to perform efficiently and resources in the organisation that are well managed are increasing when delivering of good quality service is one of the uniqueness of the organisation. Model 5 shows a contrary view as employees

that are satisfied with the job tasks assigned to them decreases when delivering of good quality service is one of the uniqueness of the organisation. Lastly, in model 5, employees that are satisfied with the job tasks assigned to them decreases when feedbacks gotten from the perceived customers are satisfactory. These regressors outcome also implies that the relationship between service quality and organisational performance is statistically significant but not at all level.

4.4 Hypotheses Testing and Discussion

Hypothesis I

H_{01}: There is no significant effect of system quality on organisational performance:

Table 4.4.1a Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.277[a]	.077	.028	1.117

a. Predictors: (Constant), S5, S2, S4, S3, S1

Source: Researcher's Survey, 2023

Table 4.4.1a presents the model summary. It shows that the correlation coefficient R is 0.277 which indicates that there exists a strong positive relationship between organisational performance and system quality. It is also clear from the table that the R^2 which is the coefficient of determination is 7.7%. This implies that 7.7% of organisational performance can be explained by the effect of system quality.

Model		Sum of Squares	df	Mean Square	F	Sig.
		ANOVA[a]				
1	Regression	9.760	5	1.952	1.565	.177[b]
	Residual	117.230	94	1.247		
	Total	126.990	99			

a. Dependent Variable: OP1

b. Predictors: (Constant), S5, S2, S4, S3, S1

Source: Researcher's Survey, 2019

The analysis of variance table (ANOVA) presents that, the F- statistics gives 1.565 with p-value of 0.177 which is greater than 0.05. This implies that the model is fit.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.381	.908		-.420	.676
	S1	.058	.102	.060	.573	.568
	S2	.736	.351	.212	2.099	.038
	S3	-.040	.104	-.039	-.385	.701
	S4	.261	.153	.171	1.709	.041
	S5	-.063	.240	-.027	-.262	.794

a. Dependent Variable: OP1

From the coefficient of table 4.4.1c, it could be seen that the overall significant effect for the independent and the dependent variable is 0.000 which is less than 0.05 significant levels. Therefore, there is a significant effect of the independent variable on the dependent

variable which implies that the null hypothesis is rejected and the alternative hypothesis is accepted. packaging of product will lead to 87.5% increase in consumer buying behavior.

Hypothesis II

H_{02}: There is no significant influence of information quality on organisational performance.

Table 4.4.2a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.347[a]	.120	.073	1.090

a. Predictors: (Constant), INF5, INF1, INF3, INF2, INF4

Table 4.4.2a presents the model summary. It shows that the correlation coefficient r is 0.347 which indicates that there exists a strong positive relationship between organization performance and information quality. It is also clear from the table that the r^2 which is the coefficient of determination is 0.120. This implies that 34.7% change in information quality can be explained by the improvement in information quality while the remaining is explained by other factors.

Table 4.3.2b: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.269	5	3.054	2.569	.032[b]
	Residual	111.721	94	1.189		
	Total	126.990	99			

a. Dependent Variable: OP1

b. Predictors: (Constant), INF5, INF1, INF3, INF2, INF4

Source: Researcher's Survey, 2019

The analysis of variance table (ANOVA) presents that, the F- statistics gives 2.569 with p-value of .032 which is less than 0.05. This implies that the model is fit.

4.4.2c: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.663	.866		.766	.446
	INF1	.184	.179	.101	1.026	.308
	INF2	.170	.077	.216	2.208	.030
	INF3	-.197	.151	-.127	-1.305	.195
	INF4	.117	.088	.132	1.339	.184
	INF5	.186	.100	.182	1.867	.065

a. Dependent Variable: OP1

From the coefficient of table 4.4.2c, it could be seen that the overall significant effect for the independent and the dependent variable is less than 0.05 significant levels. Therefore, there is a significant effect of the independent variable on the dependent variable which implies that the null hypothesis is rejected and the alternative hypothesis is accepted. The INF2 value of 0.03 for information quality implies that increase in organizational quality will be positive effect.

Hypothesis III

H$_{O3}$: There is no significant relationship between service quality and organisational performance.

4.4.3a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.215^a	.046	-.004	1.135

a. Predictors: (Constant), SER5, SER2, SER1, SER4, SER3

Table 4.4.3a presents the model summary. It shows that the correlation coefficient r is 0.215 which indicates that there exists a strong positive relationship between organizational quality and service quality. It is also clear from the table that the R^2 which is the coefficient of determination is 0.046. This implies that 21.5% change in organizational quality can be explained by the product labelling while the remaining is explained by other factors.

Table 4.4.3b: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.872	5	1.174	.911	.477[b]
	Residual	121.118	94	1.288		
	Total	126.990	99			

a. Dependent Variable: OP1

b. Predictors: (Constant), SER5, SER2, SER1, SER4, SER3

Source: Researcher's Survey, 2023

Table 4.4.3b presents ANOVA table. The F-statistic as shown from the table is insignificant since the probability value of 0.477 is more than the alpha level of 0.05, thus the model is fit.

<div align="center">4.4.2c: Coefficients[a]</div>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.136	.534		4.000	.000
SER1	-.170	.084	-.206	-2.025	.046
SER2	.027	.098	.029	.272	.786
1					
SER3	-.026	.085	-.032	-.306	.760
SER4	-.012	.091	-.013	-.127	.899
SER5	-.045	.082	-.056	-.548	.585

a. Dependent Variable: OP1

From the coefficient of table 4.4.2c, it could be seen that the overall significant effect for the independent and the dependent variable is less than 0.05 significant levels. Therefore, there is a significant effect of the independent variable on the dependent variable which implies that the null hypothesis is rejected and the alternative hypothesis is accepted. The BETA value of 0.170 for SER1 (independent variable) implies that service quality will lead to 17% increase on the organizational performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1:   Introduction

This chapter concludes this research effort and focuses on presenting a brief account of the major findings of the study with attempts likewise made to proffer feasible recommendations in line with findings.

5.2   Summary

This study was undertaken to investigate if the management information system has an effect on organisational performance, and the extent of its effect on academic institutions using Kwara State University as a case study. In line with this, the foremost chapter attempted providing the background against which the study was carried out. This was duly followed by a comprehensive review of literature related to the subject matter of the research. However, the analytical process the study employed is ordered probit model technique which reveals that the effect of system quality is highly significant on organisational performance in Kwara State University. Moreso, the extent to which information quality influences organisational performance is statistically significant in Kwara State University. The result also showed that the relationship between service quality and organisational performance is statistically significant but not at all level.

5.3   Conclusion

The results of the ordered probit model are quite insightful. The concludes that management information system has a significant effect on organisational performance most importantly in the following area: an effective chain of communication among the employees and the management, having information quality in determining business performance, performance of

the employees is very high and appealing to the management, and delivering of good quality service is one of the uniqueness of the organisation. Others are principles laid down in the organisation that has followed by all employees, ethics guiding the organisation's environment, management in KWASU are working effectively and efficiently, system of operation is very worst and not properly managed, errors are been prevented in the organisation through having a good system quality, objectivity of the organisation has been achieved through information quality, information quality management is been adopted by the management of the organisation and employees are been satisfied with the job tasks assigned to them. This implies that information quality and service quality of the management information system determines more of organisational performance in KWASU.

The empirical result of significant relationship between management information system and organisational performance is in agreement with the findings of Naranjo (2009), Kasasbeh (2007), and Al Meetany (2004), which confirms that users of management information systems were highly skilled and experienced which enabled them to perform their work to the fullest, and that an appropriate degree of information provided by the systems used were very high refuted the findings of AL-Gharaibeh and Malkawi (2013) that there is no significant relationship between them.

From this study, it is confirmed that the importance of information has led to the integration of other components in KWASU in order to improve information gathering, interpretation and usage in order to help the management of Kwara State University make better decisions. However, the easily accessible loads of information that is available in KWASU has also necessitated the need to manage the information quality and service quality acquired.

Therefore, Kwara state university has heavily invested in information systems because they seek to maintain their competitiveness in order to remain in the market.

Recommendations

Based on the above analysis and the implications, the following recommendations were made:

1. There should be effective channeling of quality information in KWASU so as to have significant impact on organisational performance that will improve the students' academic performance.

2. KWASU management policies should be on service quality of the students to enhance better performance of students, so as to create more opportunities for better academic performance because it will be a more effective way of reducing the level of unemployment and increasing the growth of the Nigeria economy.

3. Finally, this study also recommends that the management of KWASA should the principles laid down in the organisation that are been followed by all study that will improve system quality of the organisation through regulatory management process.

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APPENDIX

INSTRUCTIONS:

Please respond to the questions objectively by ticking the appropriate box (√) and filling the gap provided against each question and leave the alternative box blank. You may as well express your opinion in response to each question as deemed fit. There is no right or wrong response.

SECTION A: DEMOGRAPHIC VARIABLES

Please tick (□) the correct answers to the questions below

1.   Gender: Male (   ) Female (   )

2.   Age: 20 – 25 years   (   )   26 – 30 years (   )   31-35 years (   )   36 years and

        above (   )

3.   Marital Status: Single (   )   Married (   )   Divorced (   )   Others (   )

3.   Highest Educational Qualification: Primary education (   ) Secondary education

        ( )   Diploma/NCE (   ) HND/B.Sc (   ) M.Sc/PhD (   )

4.   Department: Administrative (   ) Non Administrative (   ) others (   )

5.   Tenure: How long have you work been working?   Less than 1 Year (   )   1-2
        Years (   )   3 Years and above (   )

SECTION B: ITEMS ON RESEARCH QUESTIONS

Please indicate your level of agreement regarding the following statements which are intended

to investigate "Impact Of Artificial Intelligence On Business Performance Of

Selected Smes In Ilorin Metroplois. The following numbers indicate the following levels of

acceptability:

1 = Strongly Agree, 2 =Agree, 3 = Undecided, 4 = Strongly Disagree, 5 = Disagree.

Please tick [√] only one box for each statement.

S/N	ITEMS	S	A	U	D	SD
	System Quality					
1	Principles laid down in the organization are been followed by all employees					
2	There is an ethics guiding the organization's environment					
3	All the levels of management in KWASU are working effectively and efficiently					
4	System of operation is very worst and not properly managed					
5	Errors are been prevented in the organization through having a good system quality					
	Information Quality					
6	Data quality has been one of the characteristics of the top management of the organization					

7	There is an effective chain of communication among the employees and the management					
8	Having information quality is not important in determining business performance					
9	Objectivity of the organization has been achieved through information quality					
10	Information quality management is been adopted by the management of the organization					
	Service Quality					
11	Performance of the employees is very high and appealing to the management					
12	Delivering of good quality service is one of the uniqueness of the organization					
13	KWASU is economically competitive in their respective industry					
14	Customers of the organization are been treated with good infrastructural facilities					
15	Feedbacks gotten from the perceived customers are satisfactory					
	Organization Performance					

16	Employees are the main determinant of the performance of the organization					
17	High productivity has been achieved through system quality					
18	Management of the organization always motivate their employees in order to perform efficiently.					
19	Resources in the organization are been well managed					
20	Employees are been satisfied with the job tasks assigned to them					