

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

INSTITUTE OF DISTANCE LEARNING

THE ROLE OF ACCOUNTING INFORMATION SYSTEM ON HEALTHCARE

DELIVERY IN THE SUNYANI MUNICIPALITY

By

Issahaku Husein

NOVEMBER, 2020



**THE ROLE OF ACCOUNTING INFORMATION SYSTEM ON HEALTHCARE
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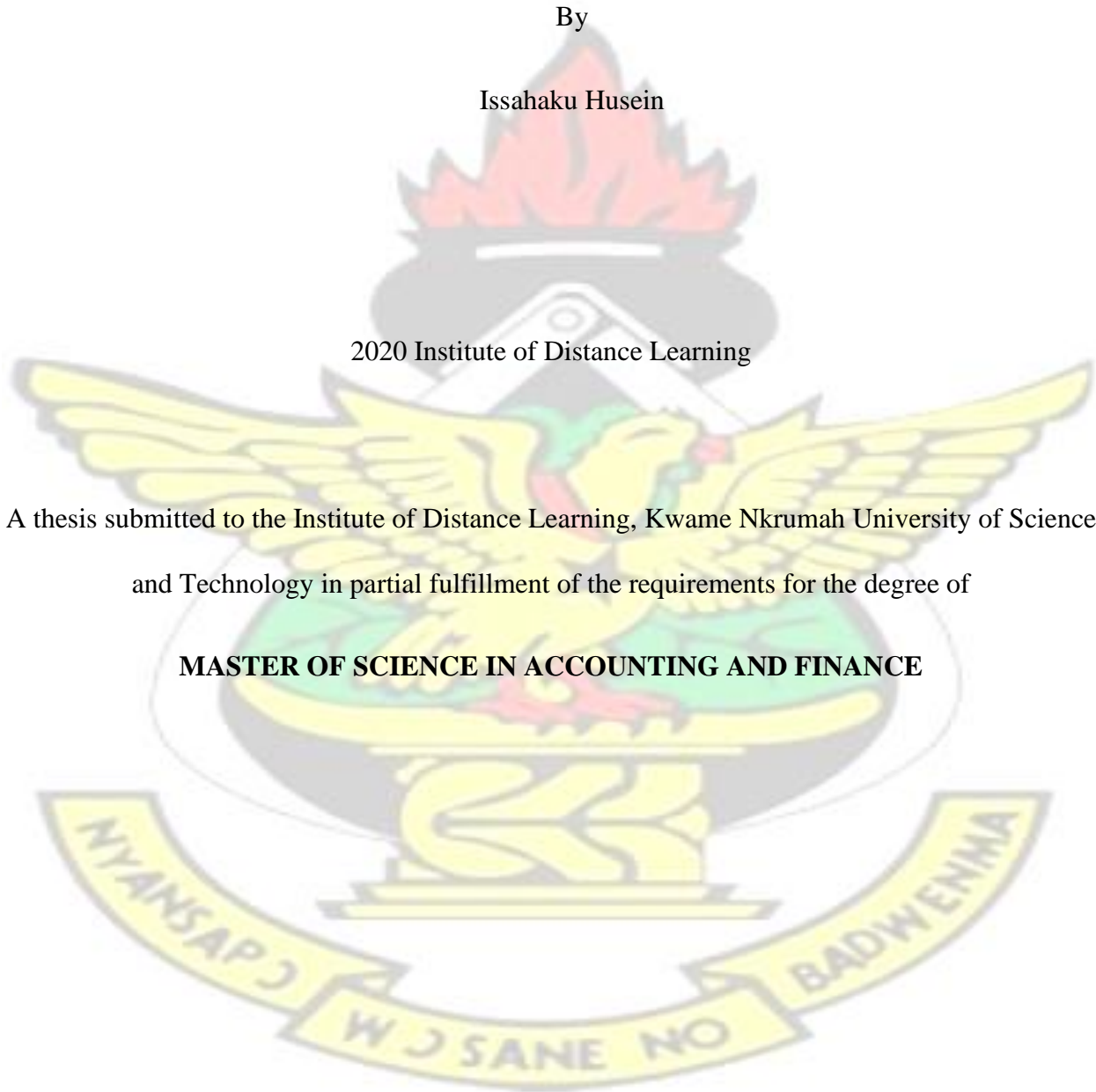
By

Issahaku Husein

2020 Institute of Distance Learning

A thesis submitted to the Institute of Distance Learning, Kwame Nkrumah University of Science
and Technology in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN ACCOUNTING AND FINANCE



DECLARATION

‘I hereby declare that this submission is my own work towards the “**Master of Science in Accounting And Finance**” Degree and that, to the best of my knowledge and belief, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the university, except where due acknowledgement has been made in the text’.

Issahaku Husein

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Signature

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Dr. Daniel Domeher

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(Head of Department)

Signature

Date

DEDICATION

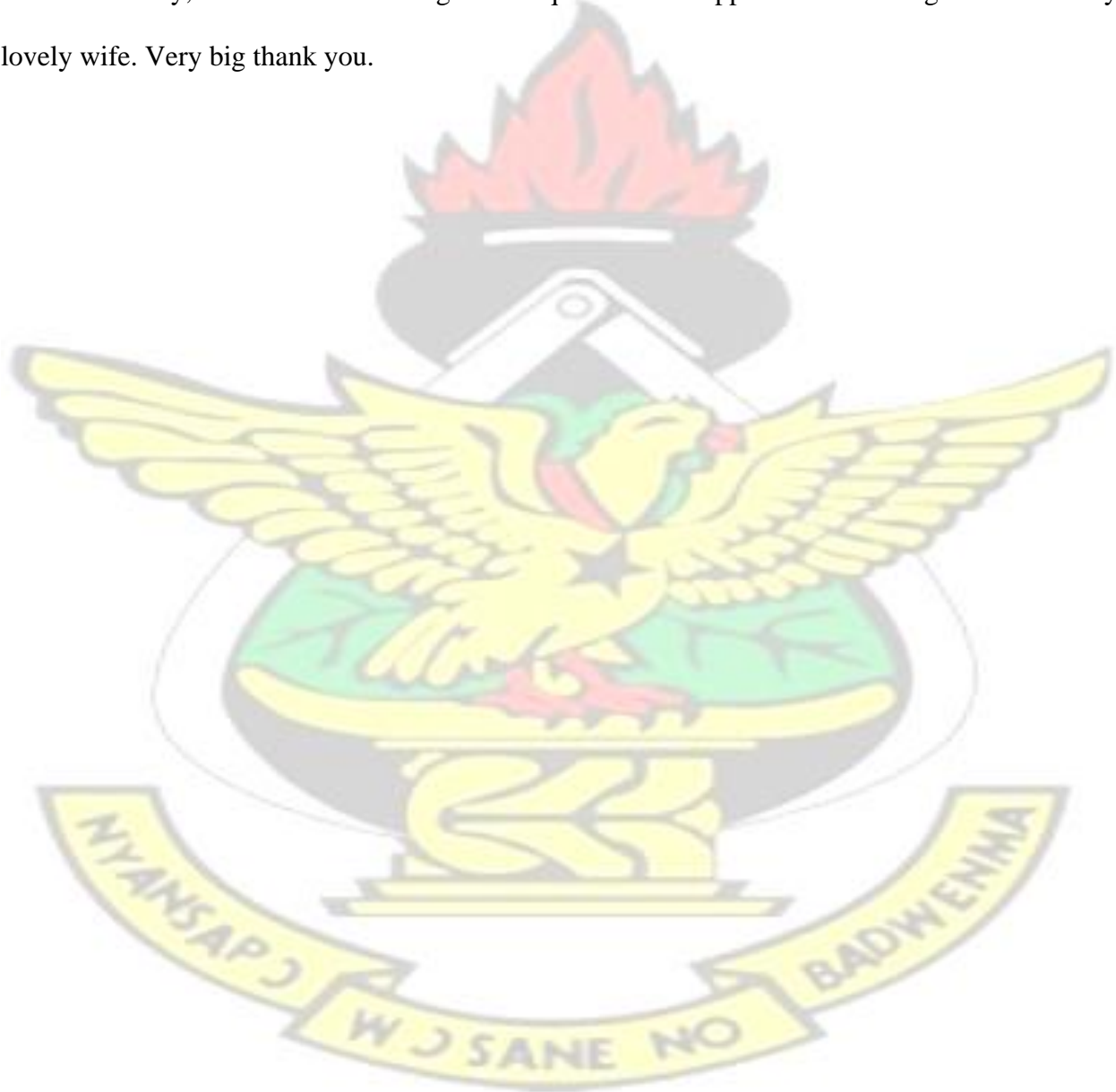
I dedicate this work to my lovely mother, wife and my employer (Dr. Alfred D. Adjapong) who encouraged and support this journey. Thanks so much.

KNUST



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ABSTRACT

This study assessed the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality. The objectives of the study was to identify the various AIS adopted by hospitals in Sunyani Municipality, assess the role of accounting information system on health care delivery and also identify challenges of AIS adoption by the hospitals. The study employed descriptive research. The researcher in the study had employed both qualitative and quantitative data collection technique and data analysis. The target population of this study is 60 respondents with a sample size of 16. The sampling technique used for the study was purposive sampling. The data collection was employed through the use of open-ended and semi-structured questionnaires and interviews. Data analysed was manual and were then presented with the aid of tables and percentages as well as narrations. The study found that all selected hospitals for this study adopted an accounting information system. With exception of SDA hospital using Samsat, all other hospitals in the study adopted spreadsheet. The results of the study also revealed that using an accounting information system can influence administrative effectiveness, good decision making and better financial reporting. Problems identified by the study included system operational knowledge, loss of data, high maintenance cost etc. The study recommended periodic training of staff, hiring persons with adequate computer knowledge, provision of necessary equipment, environment and resources to ensure the effectiveness and consideration of staff input in building the accounting information system

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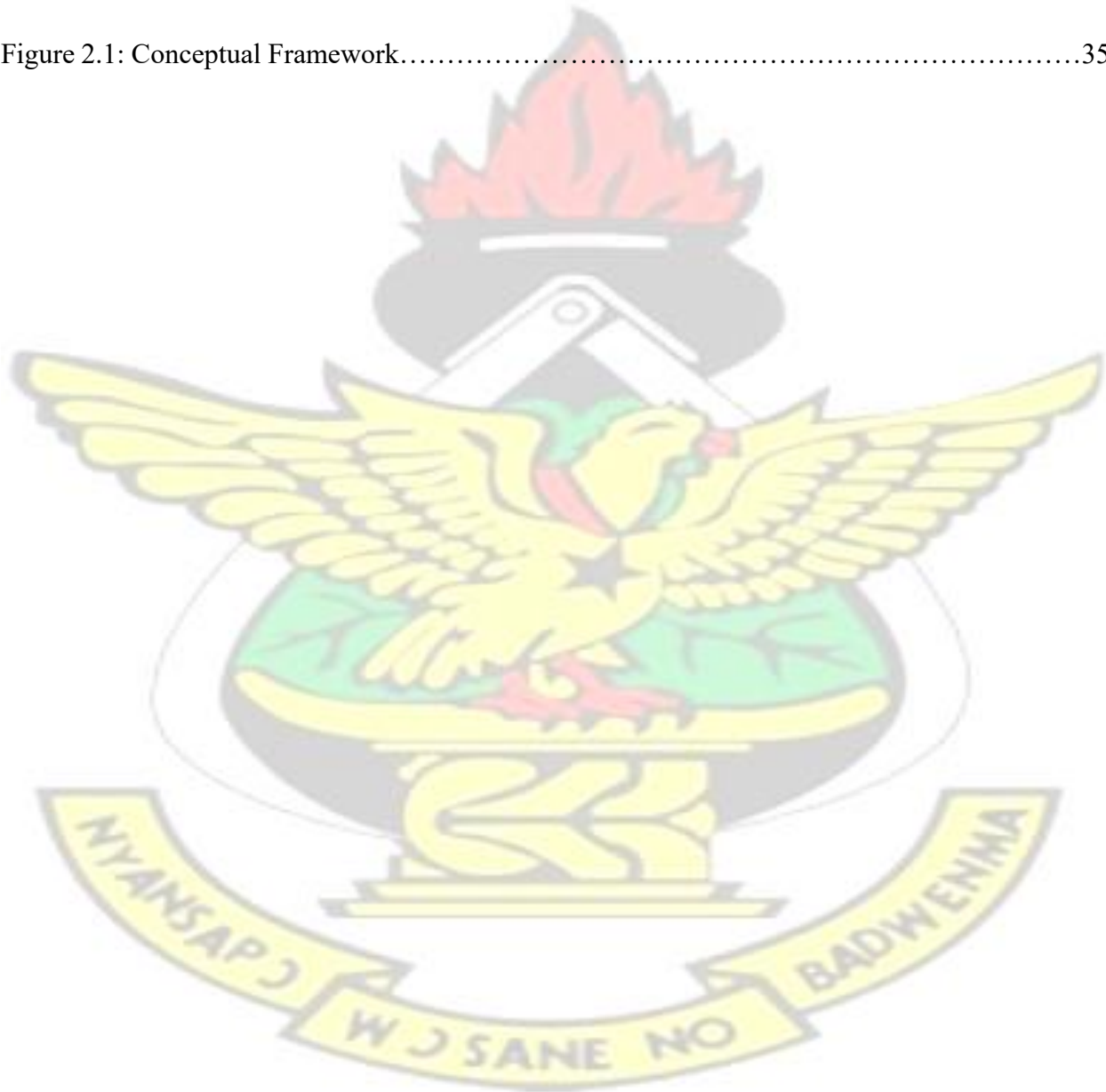
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LIST OF ABBREVIATIONS

AIS- Accounting Information System

HeFRA- Health Facilities Regulatory Agency

IT- Information Technology

IS- Information System

ICT- Information Computer Technology

DBS- Diploma in Business Studies

HND- Higher National Diploma



CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Migration from the manual way of collating data and reporting information have taken a paradigm shift to information technology (hereafter IT). To stay in the global or even regional market, keep in touch with suppliers and customers at the right time, ensure administrative effectiveness, control budget variation through proper forecasting and making useful and accurate decision call for an Accounting Information Systems (hereafter AIS). The trend of globalization has largely prejudiced financial and economic decisions of countries and organizations worldwide. Information for that matter has become a major driver of globalization Faccia, A., Mosteanu, N. R., Fahed, M., & Capitanio, F., 2019).

In the situation of business enterprise and in financial management, the quality of decisions is based on the elements and accuracy of accounting information provided by systems being operated by organizations (Hutahayan, B., 2020). Weygandt, J. J., Kimmel, P. D., & Kieso, D. E. (2018) hinted that accounting systems are used to analyze and monitor the financial state of firms, and the preparation of tax documents. Functional areas of the organization such as human resource management, production and marketing, and strategic planning are supported by information generated from AIS (Aremu, A. Y., Shahzad, A., & Hassan, S., 2018). The authors argued that, it can be very challenging for organizations to define performance, identify business partners account balances and predict performance in the future if the organization lack a system that can process and report such information. This therefore calls for a good Accounting Information System (AIS). Stefanou (2006) suggest that, Accounting Information Systems (AIS) should enable the maintenance, processing and communication of such information to all stakeholders. Turner, L.,

Weickgenannt, A. B., & Copeland, M. K. (2020) emphasized that a sound accounting information system produces better control and higher chance of success. However, the need for accounting information varies depending on what each information user demands. Adekanye, M. O., & Rahman, S. S. (2018) argued that, adopting and competently using accounting information could help organization address immediate problems by providing information to support monitoring and control.

The availability of affordable and suitable hardware and software plays a significant role in processing and generating accounting information for decision making (Ganyam, A. I., & Ivungu, J. A., 2019).

Computerized accounting system as a key factor in enhancing sound financial management system. An accounting system that is supported by appropriate information technology, reduces the cost involved in information production, increase the confidence in accounting information, and saves time and energy (Pearlson, K. E., Saunders, C. S., & Galletta, D. F., 2019).

1.2 Statement of the Problem

Good accounting information systems aids organizations in proper and timely decision making. Despite the fact that most organizations worldwide have been computerized in processing of data and provision of useful information, problems with accounting information system still persists particularly when different needs, processes and people are involved. In some part of the globe, different stakeholders are engaged in unique roles of information collection which is often moderated by an administrator. Managers on daily basis are faced with challenges of quality data management (Daki, H., El Hannani, A., Aqqal, A., Haidine, A., & Dahbi, A., 2017).

Internationally, Accounting Information System (AIS) have in the last three decades been used to produce countless results in organizations of different forms. The introduction of excel (spread sheets) and other software packages have helped both accounting and other non-accounting departments to easily calculate figures that were not easy to compute before the last three decades (Karamatova, L., 2017). Several organizations including hospitals have resolved challenges that were otherwise impeding growth or goal accomplishment with the use of AIS. AISs have introduced a rapid paradigms in modern business set-ups and are evident by the successive growth in such modern businesses that have adopted the use of Accounting Information System. The fluctuations that occurred within the business atmosphere have led to a growing number of information to be processed, produced and provided. Thus, the critical part is that, the quality of decisions is derived from the quality of accounting information produced by the business (Elenezi, H., Tarhini, A., Alalwan, A., & Al-Qirim, N., 2017). Regrettably, the speed of adoption of modern accounting information system has been appalling and slow by hospitals. This has led to the diminishing relevance of accounting information system as a vital tool to both financial and managerial decision-making. The deficiency of understanding of accounting information in most hospitals could act as blockades in implementing sound accounting systems. Poor performance of hospital/ health care delivery in Ghana can therefore be linked to manual accounting records keeping and practices. Therefore, the aim of this study is to address these gaps by conducting a study to assess the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality.

1.3 Objectives of the Study

General Objective

The general objective of the study is to assess the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality.

Specific Objectives

The purpose of this study is to accomplish the following specific objectives. The study seeks to:

1. Identify the various accounting information systems adopted by hospitals in the Sunyani Municipality.
2. Assess the role of Accounting Information System on healthcare service delivery in the selected hospitals in the Sunyani Municipality
3. Determine the challenges of Accounting Information System on the health care service delivery in the selected hospitals in the Sunyani Municipality.

1.4 Research Questions.

1. What are the various accounting information systems adopted by hospitals in the Sunyani Municipality?
2. What role do Accounting Information System play on healthcare service delivery?
3. What are the challenges of Accounting Information System on health care service delivery in the selected hospitals in the Sunyani Municipality?

1.5 Significance of the Study

This study is intended to contribute positively to the health sector in Ghana. Poor financial management, lack of knowledge of professional accounting services and inadequate use of financial information as a basis for economic and rational decision-making are some of the

problems of health delivery system. This study will contribute to the improvement of financial reporting in the health delivery process. This study is relevant to government, policy makers, professionals and researchers. This is because the study provides valuable information to state authorities who have the responsibility of making policies and legislations for the health sector at all levels to help mitigate the difficulty that government and private institutions face when creating and managing financial records. Specifically, the study would inform policy formulation including guidelines and procedures in financial records management at the Hospitals.

1.6 Summary of Research Methodology

Research Design requires principles that direct and guide the conduct of research (Turner, S. F., Cardinal, L. B., & Burton, R. M., 2017). The aim of the research design was to achieve better study control. A qualitative and quantitative data collection system and data analysis were used by the researchers in the study. The study design enabled the investigator to address the research questions. In this study, descriptive research was employed. The study used a descriptive survey meant at assessing the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality. The target population of this study is 60 respondents which consist of staff at accounts, information technology department, pharmacy, administration, etc. The sample size was sixteen (16) which consist of Administrators, Accountants, Pharmacist, and MIS officers and was attained through purposive sampling. Instruments for data collection was questionnaires and interviews guide. The researcher used only primary data gathered from questionnaires and interviews. Data analyzed was manual and are then presented with the aid of tables, percentage and frequencies as well as narrations.

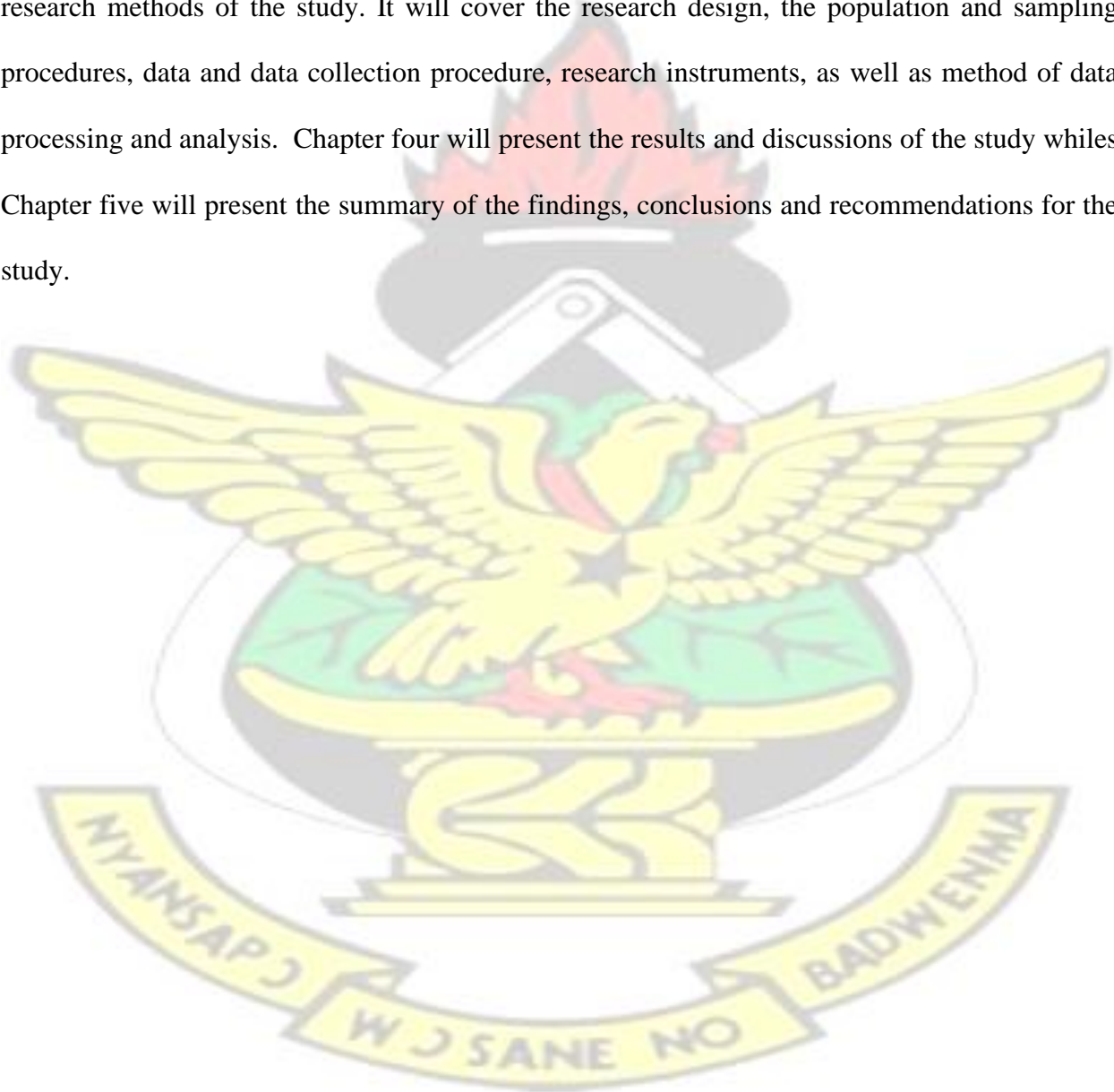
1.7 Scope and Limitation of the Study

The study areas was limited to hospitals in the Sunyani municipality of the Bono region of Ghana. The role of accounting information system on health care delivery in the Sunyani municipality was assessed. This study was conducted in the Sunyani municipality because it is the regional capital of the Bono region and have all categories of healthcare facilities except a tertiary facility. Though there are several healthcare facilities in Sunyani, the results and findings of this study was from selected facilities in the Sunyani municipality. These healthcare facilities are the Bono-Ahafo Regional Hospital, Sunyani Municipal Hospital, SDA Hospital and Owusu Memorial Hospital. Bono-Ahafo Regional Hospital was chosen in this study as a secondary health care providers while the rest of the three hospitals represented primary healthcare providers. Sunyani Municipal Hospital represented government healthcare providers, SDA Hospital represented Non-governmental healthcare providers (Christian Health Association of Ghana-GHAG) and Owusu Memorial Hospital represented private health care providers.

The study encountered some challenges though its impact on the validity of the results and findings was not substantial. First of all, the study capture current state of affairs, of which some of it if not all could be addressed in not too distant future. Caution therefore have to be exercised when reporting the findings of this study in times to come. Also, respondents are likely to be bias toward questions that affect them negatively. Thus, respondents who provide false information will be difficult to be detected and removed from the analysis. Respondents were however assured of confidentiality and informed consent was taken to ensure accurate and objective data provision. Respondents were to provide their perception of assessment and this perception is likely to apply to only few circumstances and not majority of the course. This can reduce the objectivity of the response and hence the findings.

1.8 Organization of the Study

The research will be organized into five chapters. Chapter one will be the introduction which consist of the background to the study, the statement of the problem, research questions, justification of the study, methodology, scope of the study, limitations as well as the organization of the study. Chapter two will be on a review of related literature. Chapter three will be on the research methods of the study. It will cover the research design, the population and sampling procedures, data and data collection procedure, research instruments, as well as method of data processing and analysis. Chapter four will present the results and discussions of the study whiles Chapter five will present the summary of the findings, conclusions and recommendations for the study.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section of the study reviews the literature on concept of accounting information system and concept health care delivery. The conceptual literature review, theoretical literature review of the study, empirical review of the study and the chapter ends with the conceptual framework.

2.1 Conceptual Literature Review

A conceptual review is a tool of analysis used to obtain a comprehensive understanding of a phenomenon. In this study, it is used to explain the concepts or variables of accounting information system and health care delivery.

Available literature offers inadequate evidence of the role of Accounting Information System (AIS) on healthcare delivery; many studies examined the role of management accounting practices on organizational performance. Ahmad, M. A., & Al-Shbiel, S. O. (2019) found that there is a positive relationship between AIS design and organizational strategy and performance. The study also found that better decisions are made with the use of accounting information system Sligo, J., Gauld, R., Roberts, V., & Villa, L. (2017).

The information system for accounting is used to document a corporation or organization's financial activities. These systems incorporate accounting methods, modern techniques and control mechanisms to help the IT industry track transactions, provide internal and external reporting information, financial statements, and trend analysis to assess organizational performance (Fakhimuddin, M., 2018). Areas of accounting in which computer is applicable are stock recording and control, Integrated sales ledger, purchase ledger, normal ledger, Payroll, Job costing, Word

processing and Budgeting control/financial modeling. The basic reason for financial statements is to give adequate and understandable information to stakeholder about the state of affairs thus its operational results, any changes in control/ownership and cash flow. Accounting information is expected to give needed information for the purpose of making decisions. In the management of any organization and putting in place of a perfect internal control system, a well-functioning AIS is critical to its survival. Data imputed into computerized accounting system will be processed into accounting information and printed out in a form of financial statement such as income statement, cash flow statement and balance sheet (Chaminama, T., 2018).

2.1.1 Concept of Accounting Information System

It is to be noted that, no specific definition is assigned to accounting information. Several definitions have been given from one literature to another. The logical intersection of accounting and information system (IS) makes up an accounting information system.

Accounting information system (AIS) is deemed to have a countless role in daily operations in corporate organizations. It is regarded as a vital information systems used in executing the key functions of management for efficient utilization of the available resources (Samer, 2016). According to Borhan and Bader (2018) accounting information system (AIS) identify, quantify, gather, analyze, prepare and report accounting information about a particular entity to a particular group. The accounting information system represents all eligible individuals and precise equipment used to gather financial activity data in order to acquire information that serves the needs of decision-makers over a specific period of time (Hosain, M. S., 2019). The accounting information system is essential for all facilities. AIS guarantees that management is able to access knowledge and information leading to decision-making (Haleem, A., Kevin, L. L. T., & Ahamed, S. T., 2019). AIS helps in the gathering and recording of data and information on topics that

support organizations economically. With AIS, data is stored and distributed to stakeholders for their use (Olusola, Olugbenga, Zacchaeus and Oluwagbemiga, 2013). AIS greatly helps to provide both internal and external users with reporting results, financial statements and trend analysis capabilities to influence the performance of a company.

According to Senthilkumar, S. A., Rai, B. K., Meshram, A. A., Gunasekaran, A., & Chandrakumarmangalam, S. (2018), IS refers to the use of data acquisition software, which is processed into decision-making details. Information System is described by Tambovcevs and Tambovcevs (2013), as putting together various components that enable an organization to obtain reliable decision-making information. Anaeli, A. (2018) noted that IS is a computer-installed framework for the processing of financial information that helps decision-makers organize and monitor organizational activities.

Similarly, IS was described by Olszak, C. M., Bartuś, T., & Lorek, P. (2018) as a combination of systems that provide information to support institutions' smooth operations. Likewise, Grande, Estebanez and Colomina (2011) described AIS as a tool that allows organizational managers to track and control financial events effectively if integrated into the design of IT/IS. A successful accounting information system consists of people with the required skills, the necessary machinery, the appropriate database of software and interactive procedures to provide information that can guide an organization's decision-making (El-Dalabeeh & Al-Shbiel, 2012). On the same note, Gelinas, U. J., Dull, R. B., Wheeler, P., & Hill, M. C. (2017) indicated that AIS is concerned with providing businesses with reliable, appropriate, cost-effective and timely information to perform favorably in the business climate.

According to Alnajjar, M. I. (2017), AIS is an organization's administrative modules that deal with data collection procedures, data organization and analysis to obtain knowledge useful to different

users for successful decision-making purposes. AIS was described by Elsharif, T. A. (2019) as the process of gathering, arranging and reporting financial information that has economic value for organizations' internal and external users. Ganyam, A. I., & Ivungu, J. A. (2019) have also described AIS as a system within an organization that records and communicates financial activities. Similarly, with the use of the latest IS/IT, Guragai, B., Hunt, N. C., Neri, M. P., & Taylor, E. Z. (2017) described AIS as the process of collecting, processing, storing and communicating information.

Accounting information system uses computer as a platform for its functionality. Before an accounting information system can be operational, suitable software must be intended and ready to be used on a working computer system.

Borhan and Bader (2018) described the accounting information system as a system that involves a related company, components, and resources used to generate relevant information for decision-makers in the organization in data collection, management and control. As every other method, accounting information needs a set of operations in order for it to operate well. It is a connected and similar set of resources with different components (humans, equipment, finance, etc) that work together simultaneously within a given framework towards achieving organizational objectives.

According to Boame et al, (2014), when an organization implements electronic accounting, they usually realize that not only does computerized accounting systems handle financial data efficiently, they are also able to produce for users an immediate reports regarding the institution.

Persons charged with the responsibility of governance need the information generated by AISs to guide their managerial actions. AIS is a system used for managing and processing financial data and report financial state of affairs at any particular time. This information is used by managers to build an appropriate control environment relating for the organization.

Al Shobaki, M. J., & Abu-Naser, S. S. (2017) noted that when the information collected for such decisions comes from an accounting information system, quality decisions are made. Quality choices arise because records of the accounting information system ensure easy access to accurate information. The writer further claimed that there are reliable ways of data processing in the accounting information system, which guarantees the consistency of the information system.

According to Ladan Shagari, S., Abdullah, A., & Mat Saat, R. (2017), accounting information is a business information because it helps a company identifies its strength and weakness, opportunities to be utilized and the threats to guard against in the competitive environment. Business information is sometimes used interchangeably with accounting information to mean processed data that gives information on the production of goods and services for profit; guard against risks; and promote financial sustainability. Again, Olszak, C. M., Bartuś, T., & Lorek, P. (2018), also posit that “Business Information System” (BIS) is an information that revealed evidence of business activities undertaken by an organization through a designed processes, policies and procedures.

Furthermore, accounting system, nowadays, has system of information without a limits of data and financial information, useful for making decision (Nwinee et al., 2016). The primary task of AIS is to allocate quantitative importance to past, current and future business events. AIS financial reports are collected for decision-making, including the pricing and output of buying levels of products and services, inventory control, customer support, labor agreements, and capital investment (Ashia, C. O., 2017).

Subsystems of Accounting Information System

Hall (2008) found that, an AIS encompasses four (4) major sub-systems including:

- The transaction processing system, which supports the processing of day-to-day business activities of the organization;
- The financial reporting system, which generates reports for users such financial statement and other returns required by law.
- A system of fixed assets that processes transactions related to the purchase, maintenance and disposal of fixed assets.
- A management reporting system that offers financial information and specifics necessary for decision-making, such as budgets, variance reports and transparency reports, to internal management for special purposes.

A Transaction Processing System (TPS) is a computerized accounting system, according to Afolayan, J. A. (2018), which conducts and records the regular routine transactions required for the operation of the system. The scheme is intended to collect AIS data and information on general financial operations in the form of statements sent to owners and investors (Samer, M., 2016). The non-current asset system processes transactions related to the acquisition, maintenance and disposal of non-current assets, while the management reporting system offers purposeful financial reports and decision-making information. Some accounting information system subsystems including inventory management system, customer account system, supplier account system, and payroll system were also defined by Samer, M. (2016). The inventory control system is designed to monitor the movement of reports that display the inventory situation and produce them. It helps set the amount of inventory in a company. The accounting system for customers is designed to assess sums owed by customers, define supply limits and requirements, track customer payment patterns in compliance with payment and purchase process details, and produce decision-making reports. In addition, the scheme is intended to generate monthly consumer accounts and reports

from debtors. The accounting system for suppliers provides suppliers with regular procurement and payment information. The scheme provides the company with financial responsibility for its vendors, the state of indebtedness, and the trend of supplier payments. The payroll system is designed to show daily data on employees and attendance cards, to produce payment checks and payrolls for workers, to prepare special reports on labor analysis. The computer system's dependence on the system allows companies to prepare and file special reports on taxes, returns, deductions and labor efficiency and labor cost analysis.

Internal users of accounting information include the following:

Management: to examine the performance of the organization and employing the necessary measures to improve the operational results.

Employees: for weighing organization's financial sustainability and its impact on their future remuneration and job security.

Owners: for scrutinizing sustained profitability on their investment and determining any future course of action.

External users of accounting information include the following:

Creditors: for determining the ability of the organization to fulfill its financial responsibility toward them. Creditors includes suppliers and finance lender like banks etc.

Tax Authorities: for determining tax liability of the establishment.

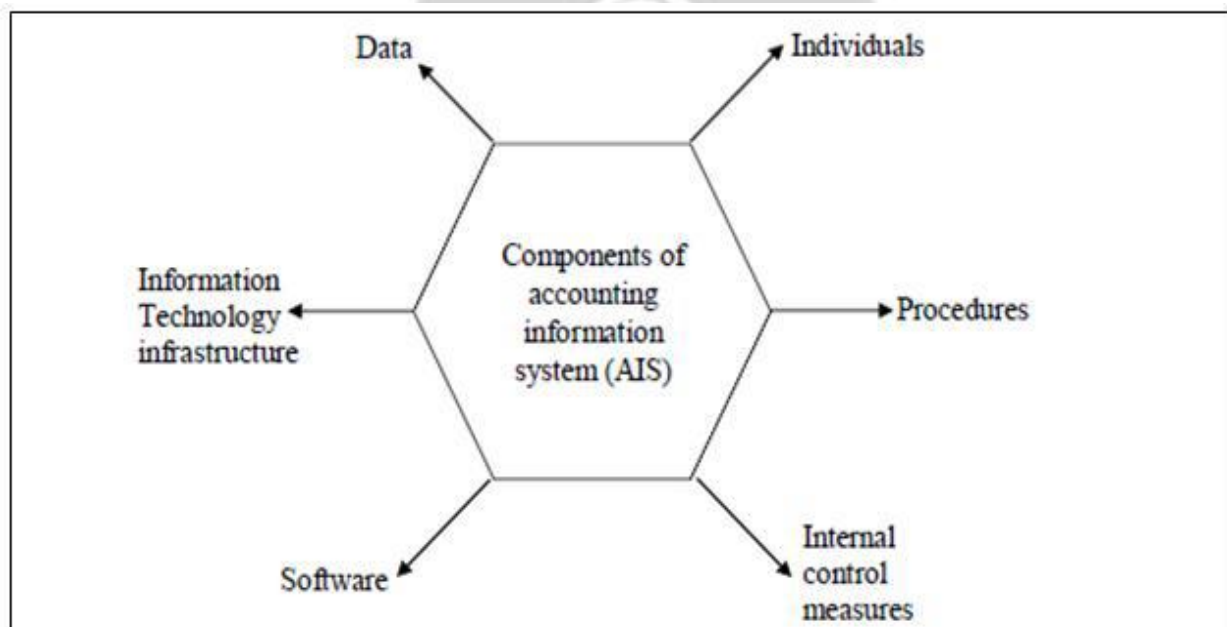
Investors: for examining the possibility of reaping return on their investment. Investors make sure the company is promising enough to guarantee profit or dividend.

Customers: for assessing financial position of their supplier so as to ensure constant supply in the long run.

Regulatory Authorities: to ensure that preparation and disclosure of financial information in accordance with law, in order to protect the interest of their stakeholders. Accounting as an information system means abiding by the requirement necessary to process a financial data using a group of systems, methods, and process that occurred in the entity.

Components of Accounting Information System

The accounting information system is composed of six elements, according to Aydiner, A. S., Tatoglu, E., Bayraktar, E., & Zaim, S. (2019) namely data, individuals, procedures, internal control measures, software, and information technology infrastructure. These components interacts to make up an accounting information system.



Source: Aydiner, A. S., Tatoglu, E., Bayraktar, E., & Zaim, S. (2019)

Equally, accounting information system is made up of various units and each of these units have a particular function. They can be presented as follows (Al-Dahrawi, 2001, p. 49 – 51).

1. **Data Collection Unit:** this unit collects data that is processed for information. The data is gathered from the entity's environment. This data represents activities, events and facts that the accountant deemed not just important but a professional requirement in processing an accounting information. The objectives set by an institution and the desire outcome have an influence on the type of the data that needed in the system.

2. **Data Operating Unit:** since most of the collected data may be meaningless in terms of using it to formulate a decision, the data obtained is processed in the data operating unit into an information that is been utilized by decision makers. Data need to be operated on and reported in a form of information to aid decision-making process or stored for future usage.

3. **Data Storage and Retrieval Unit:** storage of data and retrieving it at a later date is done in this unit. If information is not immediately necessary, it is stored or processed for potential use before being submitted to decision-makers.

4. **Information Delivery Unit (Information Channels):** this unit is the channel through which information and data is sent and delivered from one unit of the accounting information system to another until it reaches the final user. The channels of sending an information may be automated or manual depending on the best means available to the organization.

When making a choice for a components of a computer, the benefit of the system should be more than the cost of obtaining and using the system. Other departments like audit and departments charge with governance should have reasonable knowledge of accounting information systems, supporting software and the tools used in operating the system because the auditing and supervision process will be done through the computer. The auditing team should be familiar with the system in order to exercise control.

2.1.2 Nature and Functions of Accounting System

To appreciate the nature and function of accounting system, it is important to review the various definitions given by different authors. Guragai, B., Hunt, N. C., Neri, M. P., & Taylor, E. Z. (2017), define accounting system as a means by which the objective of an organization is achieved with the use of a system that collects, process, and report data that mirrors the output of operations from the direction and supervision of management. The accountant should consider data which will brighten the financial results of its operations. Appelbaum, D., Kogan, A., Vasarhelyi, M., & Yan, Z. (2017) defines accounting system as a system use to gather, summarize, analyze, and report information about the business in financial terms. The composition of an accounting system are the books of accounts together with the rules governing its usage. An accounting system is a pillar for the continuity and execution of the firm's objectives. Budiarto, D. S., SE, M., Ak, C. A., & Fakultas Ekonomi, U. P. Y. (2019) stated that it is a means through which an information is organized, and summarized in a statistical form for proper judgment and control. This definition explains that an accounting system is crucial exercising for proper control. An accounting system can again be described as a framework of accounting designed and installed to perform the desired functions to achieve a set objectives. These will include:

- i. The financial Accounting
- ii. The costing processes
- iii. Audit and internal control
- iv. Tax accounting

Oguntimehin (2001) states that accounting system performs three basic functions and these are data collection, processing and reporting of results. As a result of the fundamental importance of an accounting system, an accounting process or system should be programmed in a way that the

output (financial statements) will serve the interest all user groups. Where the information needs of the users are not fully met, it could negatively affect the decision of management of the organization.

2.1.3 Accounting System as a Management Information System

Hunton (2002) is of the opinion that the most relevant quantitative information method is the accounting system. He further notes that for three broad purposes, it offers details as follows:

- (i) Managers preparation and monitoring is attained by internal reporting.
- (ii) Internal reporting to executives for use in non-routine decision-making and in the implementation of major plans and policies.
- (iii) External reporting to the holders of stocks, the government and other external parties.

2.1.4 Objectives of Accounting Information Systems

The ultimate aim of the accounting information system is to provide its users with accounting information that helps them. The achievement of this overall goal is extracted from other sub-objectives and is notable among them are the following.

1. Measuring all organization's activities by data collection, storage, processing and reporting processes.
2. Evaluating and making appropriate decisions using reports generated by AIS.
3. Exercising internal control over elements of materiality in the entity.

2.1.5 The Various Accounting Information System Adopted by Hospitals

Almost all healthcare facilities are fast moving away from manual accounting to a computerized accounting. This computerized accounting systems are mostly in software packages which usually gives faster and accurate accounting information than the manual accounting system. Various

accounting information system adopted by healthcare facilities includes Spread Sheet, Cloud, Audit Software, Graphics Software, Microsoft Office, Tally, Sage etc.

2.1.5.1 Accounting Information System Software

Kwarteng, A., & Aveh, F. (2018) posited that, an accounting information system (AIS) is a software that is used on a computer system to perform all necessary activities in the accounting process. It is a system that obtains various data from the organization's financial activities, process and report to stakeholders for decision making. It enriches the quality of accounting information and stimulates efficiency among departments, branches and users.

Technological advancement replaced manual systems of accounting with digital accounting. Carvalho, J. V., Rocha, Á. van de Wetering, R., & Abreu, A. (2019) states that, the revolution in the information systems, which commends decades ago when the first business computers became available, is still in progress. The bigger computer systems have been taken over by a small sized desktops, laptop, tablets and other mini computers at a lower costs. The result of this shift encouraged the adoption of accounting information systems that were previously operated manually by corporate bodies. Companies can now capture, process and report all its financial activities with the help of computers. Collection and processing of data can now be performed on-line by computerized systems as against the historical systems (Romero, D., & Vernadat, F., 2016). Processing of data is slow in manual accounting information systems and mostly prone to errors. Thankfully, technology have remedied the headaches of companies' ability to collect, process, and retrieve data quickly. In addition, there is high likelihood for accuracy when data are processed with computers.

Accounting Software

Accounting software is a software for recording and processing of financial transactions. It help to manage various accounts such as debtors' ledger, creditors' ledger, payroll, inventory and trial balance. Where an organization is a small type, a simple online application can be adopted. In the case of large companies, they can contact a trusted entities specialized in software development. For organization and centralization of data, these programs are used. It is possible to categorize commercial AIS applications into three specific categories. These are the turnkey systems, backbone systems and systems sponsored by the manufacturer (Amidu, 2011). Systems that are fully designed and tested are Turnkey systems. Typically, they are not designed for a single organization, but for the general public, such as frameworks for Enterprise Resource Planning (ERP), Oracle and SAP. These are ready for incorporation in the business process. Backbone Systems consist of structures of the fundamental framework on which to construct. The basic logic is already programmed in this approach and the vendor can develop the user interface that fits customer requirements. In this context, the unique needs of the client are used to develop the software. These kinds of systems are known as customized systems. The design, execution and maintenance of the framework is done by the developer for its client.

Audit software.

Since activities of organizations are to be checked through auditing, accounts and transactions which need to be examined for the purpose of audit but are not manually available will require a software which will equally enables auditors to carry out their audit assignment on a computerized system. Software packages meant for auditing are available for auditors. This technologies also provide digital audit trails which auditors can utilize.

Word Processing Software

This is the computer program used for word documents. The word processing software can be used to edit, store and print data. In communicating information, accountants and other employees of an organization use word processing software. It is also used in preparing reports, billings, memos and financial statements. (Chaminama, T., 2018).

Spread Sheets

The tabular type application software used for data organization and analysis is a spreadsheet. Excel and SPSS are the two most used spreadsheets today. This is mainly seen in tasks involving measurement (Ragsdale, 2014). At the end of a financial period, reports of financial activities which are the output of processed financial data could be exported to a spreadsheet and presented with the use of graphs and percentages to the board of directors for understanding and appreciation.

Graphics Software

In order to encourage better understanding of the subject, this program generates images, graphs and charts from data input. This is commonly used in financial statements to better clarify the company's success level and status to stakeholders over a given timeframe and as at a specific date.

Interchange of electronic data (EDI)

This scheme restricts human participation in a standard format, but rather an intercompany exchange of computer-processed business knowledge. In order to advance their goals, it is an inter-organizational relationship between two or more organizations to exchange relevant data or knowledge. In an EDI scheme, approval and authorization are free from human intermediaries.

Security

For accounting protection, information technology is commonly used. Using identifiers and passwords gives the agency a clear control over accessing confidential information. Instead, papers and other important documents are locked in drawers and people are often confined.

Internet

The Internet most frequently provides unrestricted access to information that can be used by businesses, especially in the area of accounting. A great tool for organizational progress is the exchange of important documents and studies into new and other ways of doing things. Also tax returns can be filled out electronically (Willis, C. D., Saul, J., Bevan, H., Scheirer, M. A., Best, A., Greenhalgh, T., & Bitz, J., 2016). It can be wireless and fast to connect to the Internet. Malls and department stores usually use the Point-of-Sale (POS) system. The use of the internet encourages and simplifies business activity. Transactions are performed on the internet and transfers can be made to their respective banks using either a credit card or the websites of other service providers. The use of barcodes helps to increase sales processing time and to update their inventory records automatically.

Cloud

The cloud is the latest trend with accounting applications. Under the cloud, the server is hosted in a different location and not on a particular device in the organization. Unlike situations where a program is installed on a computer and data save into it, the cloud technology work online and information or documents saved on it can be accessed anywhere there is internet connection. This can also be referred to as "working in the cloud." With the use of the cloud, businesses can save money because they may not have to think about purchasing larger hard drives, but only signing up with a cloud service and using their programs and data storage space. The cloud technology

comes with security protection of accounting information and administrator decides who access information related to the organization.

2.1.6 Concept of Healthcare System

The effectiveness of healthcare systems are now leading discussion on the global health platform. Healthcare systems in various countries even in those with similar health characteristics vary significantly in performance and attaining health goals. Countries differ widely with the appropriate health policies to adopt. There is no unique formula for health services organization and no country has discovered an ideal model.

Healthcare systems are systems put in place to address the health requirements of the targeted populations. The World Health Organization (WHO) indicated that, for a healthcare system to function well, it requires a financing machinery, skilled, experienced and well paid workforce, reliable information to formulate policies and decisions, and well maintained health facilities to deliver the best of services needed.

In Ghana, accreditation and regulation of healthcare facilities is carried out by Health Facilities Regulatory Agency (HeFRA). The Health Institutions and Facilities Act, 2011 (Act 829) established the Health Facilities Regulatory Agency (HeFRA). In part one of the Act, HeFRA was set up to license and regulate the activities of both public and private health institutions. The object of the Agency is to ensure that health facilities conduct their activities in line with the laws of Ghana. HeFRA's mandate is derived from the Health Institutions and Facilities Act, 2011 (Act 829) Section 11 (1 and 2) which states that “a person shall not operate a facility unless the facility is licensed under this Act. Also a person shall not operate equipment in a facility specified in the first schedule unless the facility in which the person operates is licensed under this Act”.

The Medical Care Journal posited that, healthcare is the maintenance, promotion and/or improvement of health via the prevention, diagnosis, treatment, recovery, or cure of disease, illness, injury, and other physical and mental impairments in people. Healthcare is delivered by health professionals in the health fields. Physicians and physician associates are a part of these health professionals. Dentistry, pharmacy, midwifery, nursing, medicine, optometry, audiology, psychology, occupational therapy, physical therapy, athletic training and other health professions are all part of health care. It includes work done in providing primary care, secondary care, and tertiary care, as well as in public health.

In the context of this study, the Primary Health Care (PHC) service providers may be classified as public (government), Non-Governmental Organization (NGO) mostly faith based institutions, and private, with the public sector providing the bulk of the services. At each level of the Health System, multidisciplinary teams of professional, auxiliary and support workers who provide comprehensive and integrated preventive, curative and rehabilitative services. These teams also coordinate the activities of the various providers, with varying levels of success. Primary healthcare is the first place of call to persons seeking healthcare. It is the place where your initial complain is taken for treatment or referral. According to Alma Atta Declaration of 1978, Primary Health care is intended to render service to the very community it is located; it included both preventive care (measures taken or adopted by healthcare service providers to avoid a situation of people getting sick or infected) and curative care (treatment of already infected person). In this study, three (3) primary health care providers was considered namely, Sunyani Municipal Hospital (Public), SDA Hospital –Sunyani (private non-profit) and Owusu Memorial Hospital (private) all the Sunyani municipality.

Secondary Healthcare provider is a provider in the health system, in which patients and clients from primary healthcare facilities are referred for specialized consultation and treatment. Located in Sunyani, in the Sunyani municipality of the Bono Region of Ghana, is the Bono-Ahafo Regional Hospital, the only secondary hospital in the region. This secondary hospital was employed in this study.

Tertiary Health care is the highest level of health system, in which specialized clinical competence and equipment is required to respond to the health needs of the patient. It is usually a place where hospitals (usually secondary) send patients for a specialized treatment. It is the next step of health care when treatment fail at the district and/or regional hospitals. In the municipality of study, no tertiary healthcare provider exist hence, its exclusion from the study.

2.1.7 The Role of Accounting Information Systems on Health Care Delivery

The value of accounting information systems is that all of their financial operations are used in the facility and monitored (Fagbemi, T. O., & Olaoye, J. A., 2016). Lee, I. (2017) noted that, it consist of both human and machines that operate within the overall structure of the facility, processed gathered data for analysis and decision-making. It provides the format, coverage and the quality needed in a timely manner and helps to track the job efficiently and economically. Therefore, we found that information systems strengthen the relationship between and between the structured information system, the management function, the organizational structure, and the information users in the context in which the system operates (Laumer, S., Maier, C., & Weitzel, T., 2017).The implementation of IT have become a strategy that organization utilize to gain favorable competition which will secure sustainability through effective decision making. It is extremely important for hospitals to understand the needs of their clients and the modern healthcare

environment needed to satisfy those needs. Previous literatures have indicated that effective AIS contributes in organization's success in several ways.

Bawaneh (2014) posited that, products and services quality is improved with the adoption of AIS thereby reducing spoilage of materials. Relatedly, Malmouse, M. (2019), argued that AIS role cannot be downplayed in reference to performance in the health sector. It opens up opportunities for integration of systems that ensure prudent fund allocation and advice on financing options which will largely result in saving cost. Most AIS software packages are built with advances characteristics that enables an organization to seek financial advice from the system. Those systems are able to study the trend of a particular activity over a given period of time and is therefore capable of forecasting certain activities or event likely to occur in time to come.

According to Harash, E. (2017), every organization have a unique AIS to meet its requirement. Voting more budget to AIS strengthen the organizational practices, which enables dynamism and flexibility in business environmental conditions. Innovation allows organization to timely adopt to current trend and way of doing things.

When creating a quality information system (hereinafter IS), it is important to request and integrate the feedback and requirements of managers (Lee, P. C., Wang, Y., Lo, T. P., & Long, D., 2018). The input of management increases the degree of fitness of the system and the user's requirement. If a system is not in line with the requirement of the organization, then certainly such a system cannot be beneficial to the organization.

Moreover, Lutf, A. A., & Mohamad, R. (2016) argue that the implementation of AIS is significant and beneficial to organization only to an extent that the views of managers and all other personnel who utilize the system for smooth execution of their duties are taken into consideration. Since managers have a clearer understanding of the company's needs and are generally responsible for

designing specific and appropriate steps to resolve the company's problems, they will better decide on the appropriate AIS for the organization (Faccia, A., Mosteanu, N. R., Fahed, M., & Capitano, F., 2019). The expertise of AIS by managers is non-negotiable for an organization's sustainability and success (Lutf, A. A., & Mohamad, R., 2016).

Borthick and Clark (1990) note that the justification for the nature of accounting is the need for knowledge. Accounting data should respond quickly to user requirements and more importantly, to investor needs, to keep it relevant in the business. Typically, investors cannot determine the success of a target organization where they are investing or planning to invest. Financial reports, usually compiled by company executives, are a source of information for investors. The primary purpose of the financial statement is to include information of the financial situation of the corporation, cash flows, management of the company and its operating performance improvements.

Fagbemi, et al. (2016) notes that in the global competitive climate, AIS plays a major role in increasing the competitiveness of enterprises. The financial statements of external stakeholders also provide a significant source of financial information (Osadchy, E. A., Akhmetshin, E. M., Amirova, E. F., Bochkareva, T. N., Gazizyanova, Y., & Yumashev, A. V., 2018).

Accounting practices have not kept pace with impressive technical innovations and rapid economic growth, despite the endless changes and widespread use, which have a consistent effect on the value of accounting knowledge. Grossi, G., Kallio, K. M., Sargiacomo, M., & Skoog, M. (2019) argue that the decreased efficacy of accounting knowledge has been illustrated by major accounting frauds identified in developing countries and rapidly changing economic conditions, as well as some empirical studies. However in the study of Onaolapo and Odetayo (2012) agree that the value of accounting information is still enormous.

IS and IT managers with the appropriate experience and skills are more likely to be engaging, constructive and successful and seem to have a good attitude towards IS and IT (Moura, I., Doinguez, C., & Varajão, J., 2019).The Ang. et al. (2001) confined itself to checking the alignment of the AIS and contrasted the AMK in non-aligned AIS and AIS aligned firms.

The benefits of an organization's optimal use of AIS may include the ability to adapt to evolving circumstances, the efficient handling of internal business transactions and favorable competition. It also increases employee contact, the exploration of new business on the network and strengthens good relationships with external partners, especially with international customers accessed via the platform of the organization (Guragai, et al, 2017).

2.1.8 Challenges of Accounting Information System on the Health Care Service Delivery

The study of Ayatollahi et al. (2016) revealed that, in developing countries, the main reason for the failure of information systems in the healthcare sector is that, it fail to address the concerns of management and staff needs. In the case of Ghana, a lot of factors may influence this challenges, particularly in the public healthcare institutions. Most AIS used by public hospitals are often sent to the various hospitals by the central government disregarding the fact that each hospital have a unique way of operation. Thus, even when information systems are successfully installed, its use are often faced with challenges such as update, security and operational knowledge. Therefore, system designers are supposed to obtain the input of users' to provide a friendly systems. The following are also some Challenges of Accounting Information System on The Health Care Service Delivery by (Oleribe, et al, 2019).

Learning the System

Learning an accounting information system cannot be described as an easy task especially when people who will be using the system are not much knowledgeable in computer. Individuals who

will be using the system are often ignorant of how the system works and will be confronting a software for the first time. Usually, training are mostly a day or two days which are inadequate particular to those who are not familiar with computer application software. Therefore, after training, usage of the system still become difficult since the operational knowledge is limited to memory capacity of the trainee. It can take a reasonable time for all those whose activities are affiliated to the system to gain familiarity with the system and fully utilize it to their benefit. If an employee trained or knowledgeable on the system is transferred, relieve of duty or resigns, it can take time again for another employee to be trained and familiarized him/herself with the system.

Loss of Information

Since most of accounting information systems are installed on computers, there is the potential of losing information when the unexpected occur. There always exist the risk of some or whole information getting missing either through power outages or system crashes always exist. When the unfortunate happens, the tendency of certain information not able to be retrieved again exist. However, hospitals take measures such as back-ups on pen drives and other storage devices. They also ensures that, periodic maintenance on all computer systems are carried out. Anti-virus software are equally installed as another precaution against virus attack. But the likelihood of this challenge persisting is still present. The systems stores the company's financial information and so for that matter if system crash occurs, the company will be brought on its knees and may never be able to recover.

Re-evaluation

There is no one way of doing things forever and so there is no rigid system in the world. Amendments are always constant to guarantee innovation that keep an organization in the competitive environment. Hence keeping up with the business world require a re-evaluation of an information system against the trend of activities to be able to function appropriately. To keep up with changes, accounting information systems must be upgraded often to match any operational changes that occurred.

2.2 Theoretical Literature Review

Under the theoretical framework, three (3) theories related to the study was considered. These theories include the Contingency Theory, Agency Theory and Behavioral Theory

1. Contingency Theory

Contingency theory gives its opinions that an accounting information system should be designed in a friendly manner taking into consideration the user's needs, the environment and the structure of the organization. The specific decisions mostly adapted need to be highly considered when designing an accounting information system. This explains that in building an AIS, the internal and external factors of the organization need to be taken into an account. Gordon & Miller, (1976) concluded that for every successful organizations, the internal and external environment is a key considerable factor in designing an information system. In this study, two variable that is, accounting information system and healthcare delivery is considered. The role of the earlier variable is assessed on the later.

2. Agency Theory

This theory is utilized most in accounting literature for the last two decades. The theory states requirement and responsibility of both the principal and the agent, and how they relate to each other. This theory have become attractive to researchers in the accounting field because it deals

with problems of interest and incentive, and mechanisms for bringing them together under one model, (Kaplan & Norton, 1993). It is generally assumed that there is a conflicting objectives between the principal and the agent because they are both seeking their self-interest. The principal is risk-neutral and the agent is risk-averse. This dichotomy is bridged with the introduction of a contract. A contract spells out responsibilities of each parties with duties and responsibilities of both the agent and the principal captured in the contract. In conclusion, in this study, agency theory is used to answer the question: what role do information, accounting, and compensation systems play in the design and structure of accounting information systems? The philosophy of the agency offers a basis for solving these issues.

3. Behavioral Theory

The behavioral theory explains the way an individual behaves by conducting an analysis of the individual environment and the knowledge acquired through previous experience. The accounting information system requires the appropriate environment and skilled workforce with much experience to enhance its functionality. Behavioral theory accounting research evolved rather quickly, because the effectiveness of every organization depend on the type of environment put in place and the experience of people working within it. This often ensure a better control system with a positive result of performance in the organization. An understanding of the environment will lead to a better control system and this forms the basis of the research.

2.3 Empirical Review

AIS has received a lot of attention from scholars, but the results remain inconclusive. Ismailjee, (1993) studied the effect of accounting information systems on the operational performance of automotive companies in Kenya. Descriptive research design was employed in the analysis. Furthermore in data collection and analysis, mixed approaches were applied. The descriptive

design is found to be acceptable because it sufficiently answers major goals and research questions proposed in the report. Both primary and secondary data were obtained from the study. Primary data was collected from the selected companies through interviews and questionnaires with randomly selected employees. The use of interviews was suitable since the respondents were guaranteed confidentiality. Therefore, they behaved without fear or shame at all. Primary data was obtained through one-on-one interviews with the researcher and questionnaires were distributed and filled in by the respondents. Censuses, operational documents and data gathered by qualitative methodologies or qualitative analysis were included as secondary data. The findings of this research show that Accounting Information Systems are an important tool for the efficient management, decision-making and control activities of organizations. The findings are consistent with empirical reviews that suggested a relationship between AIS and organizational performance. The AIS is an important decision-making mechanism for the monitoring and coordination of an organization's activities. The study concluded that AIS is important for the timely development of quality accounting data and the communication to decision-makers of that information. In other words, empirical studies have shown that accounting information systems have a greater influence on Kenya's automotive companies' organizational effectiveness. The gap in this study is that measurement of effectiveness is subjective. Effectiveness is determined by objective(s), and similar organizations could have different objectives. This means that, an organization's output could be measured as been effective while same output or result to another organization could be measured as been ineffective subject to the extent to which the result or output satisfy the organization's objectives.

Beg, K. (2018) assessed role of accounting information system on the financial performance of ten major Indian FMCG companies. To achieve the study objectives, a self-administered questionnaire

designed on five point scale was been used to collect data from 283 employees. The study found that, there is a significant impact of accounting information system on the financial performance in the companies under study. The findings of this study may be deceptive because a significant number of the employees declined to answer the questionnaires distributed. As much as 117 employees out 400 employees representing 29% of the total number of questionnaires distributed, rejected the questionnaires and this percentage of rejection is material to the findings and conclusion of a this study.

Esmeray (2016) research was to define the effect of AIS on the financial results of small and medium-sized enterprises in Turkey. The analytical descriptive method was used to achieve the objective of the analysis by developing a questionnaire and distributing it over the study sample that consisted of 60 companies in the city of Qaisariya. A statistically important positive association between the usage of accounting information systems and the growth rate of revenue, returns and customer numbers was shown in the results of the analysis. This study however was silent on the position of respondents and years of experience in the companies so as to ascertain whether or not those respondents were clothed with the required knowledge to provide accurate information to the researcher. The researcher also relied on interviews and questionnaires for his/her data which could have been bias.

Nwinee, et al (2016) study was to identify the impact of AIS on the organizational effectiveness of small and medium-sized enterprises in Nigeria. The methodological descriptive approach was accompanied by the design and distribution of a questionnaire over a research sample consisting of 156 employees of small and medium-sized companies in the city of Port Harcourt in order to achieve the objective of the study. The study results showed that the use of accounting information systems enhances organizational efficiency and improves the ability to manage costs. It is worthy

to note that efficiency is subjective. So therefore, to conclude that AIS enhance efficiency will be relevant only to the extent that the organization's goals are reached with lesser resource than would have been used.

Patel's research (2015) explored the effect of accounting information systems on the profitability of businesses. The researcher employed theoretical methodological approach to achieving results, by analyzing previous studies and the philosophy of accounting information systems. The findings have shown that accounting information systems have an effect on company performance and decision-making, and that accounting information systems have also been found to contribute to providing the information needed to make financial and economic decisions. The research however fall short of data. No data was utilize for this study but rather previous literature and concepts of accounting information systems was analyze to draws conclusion. Information importance is determined by time, therefore findings in previous literature may not be valid or useful in subsequent studies. Limiting a research to theories, concept and previous studies without employing data to understand the current situation could be problematic.

Qatanani, K. M., & Hezabr, A. A. (2015) investigated the impact of accounting information systems on the improvement of the value chain of companies in the Kingdom of Bahrain. To achieve the purpose of the research, the empirical descriptive approach was applied by developing a questionnaire and distributing it within the study sample consisting of 60 workers in 23 industrial companies. The study results suggest that there is a lack of availability of the basic components of accounting information systems. Moreover the consistency of accounting information needed to improve the value chain of public industrial shareholding companies in the Kingdom of Bahrain for business organizations is lacking. As for the contribution of value-improving accounting information systems, it was found to be minimal.

Al-Dalabih, F. A. (2018) aimed to show the impact of the use of accounting information systems on the quality of financial data. In order to achieve the objective of the research, the methodological descriptive approach was implemented by creating a questionnaire and circulating it through a study sample consisting of 70 individuals working in service companies. The results of this study showed significant difference among the Jordanian service companies in terms of the nature, inputs and security of accounting information systems and the quality of financial data attributed to the sector.

2.4 Conceptual Framework

The basic concepts especially around the study objectives need to be clarified on AIS and health care delivery. This will not only sharpen the direction of this study but will also provide a framework upon which the study findings will be validated

Figure 2.1: Conceptual Framework.

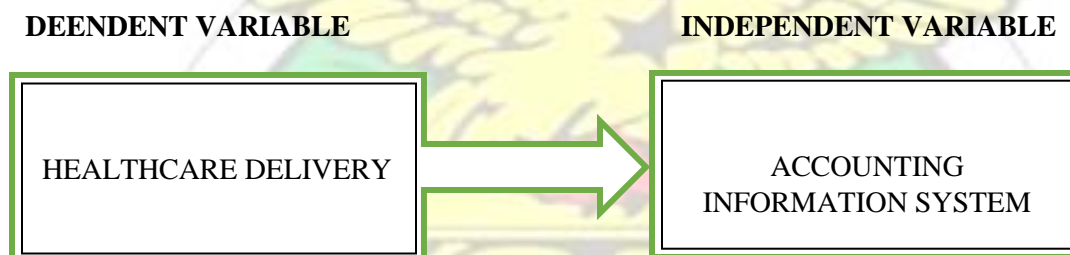


Figure: Conceptual Framework.

Source: Author's own construct (2020)

The accounting information system goes through three basic steps namely data collection, data processing and production of information.

Data Collecting: this unit collects general data from the clients and his/ her activities within the hospitals. This data represents the events and facts about the operation of the hospital, that the accountant and other interested parties' cares about and consider them material and should be acquired and recorded.

Data processing: the collected data by the accounting information system might be used immediately if they were useful for the decision-maker at the moment they are collected. But, in most cases, these primary data needs to be operated and prepared to be a useful information in the decision-making process, thus it is sent to the storage unit in the accounting information system.

Information Production: this unit is the means to transfer and deliver data and information from one unit to another within the accounting information system, until it reaches the makers of administrative decisions. Communication channels might be automatic or manual (monitors or papers) according to the hospital's available means. The processed data is generated in a form of information that is understandable to various users' for useful decision making.

Data Management System

The coming together of the above various units make up the Data Management System. All activities deemed necessary to aid decisions of management and other stakeholders are made with the output of this system. This system provides very useful information upon which management of the hospital can rely on, to formulate decision that will help in delivering quality healthcare.

Client/Patient Service

From the registration, the client bio data is taken for consultation by a physician. Complain of client is taken for diagnosis and treatment. The storage of this information in an information system guide physicians in subsequent consultation of same client. There is also data base for referral of the client if he/she cannot be treated in the hospital. This information enables management to

identify the hospital's weakness of services it lacks. Based on the number of referrals of certain cases, management may take decision to provide such services in the hospital to reap in more income if it is not above their level of care. Data on Accident and Emergency units equally help management of the hospitals to put in measure to appropriately respond to emergencies. It also help in reporting is also help in reporting external parties such Road safety commission, the police and others. The system also collect data on reports of Adverse Drug Reaction (ADR) for food and drugs authority.

General Accounting

The system help to maintains general accounting records in accordance with the hospitals curriculum and in line with the International Accounting Standards (AIS) and the International Financial Reporting Standards (IFRS). It keeps track of the entrance and exit movements' inventory by following the hospital stock status of the material. It informs the purchasing quantity of material since the system is able to give information on fast moving items. This solves the problem of overstocking items which may result in expiry of items. Again, AIS help in human resource management. The payroll of hospitals are well manage with the use of accounting information system. The system will provide information on cost of labour as against output or revenue from their service to ascertain value for money. Furthermore, accurate and timely financial information is mostly available with the adoption of AIS which may result in efficient management of the hospitals for quality healthcare. Hospitals have made IT implementation as one of their key strategies for competitive advantage, sustainability and effective decision making. It is very important for hospitals to understand their clients' needs and the changes in health care delivery in timely manner. Accounting information system helps hospitals to improve the quality of

products and services, reduce waste of materials, improve the decision making and sharing of knowledge by providing competitive advantages to their hospitals.

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CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the strategies and methods used in data collection. It consists of research design, target population, determination of sample size and sample methods, data collection process, data analysis and ethical consideration.

3.1 Research Design

With regard to research design, both qualitative and quantitative data collection methods and data analysis were employed in the study. The study design enabled the investigator to address the research questions (Saunders et al., 2007).

Descriptive analysis was employed in this study. In some selected hospitals in the Sunyani Municipality, the research used a descriptive survey to investigate the role of the accounting information system in the delivery of health care. A research concerned with figuring out who, what, why, where and how of a phenomenon is a descriptive study, which was the concern of the proposed study, according to Cooper and Schindler (2006).

3.2 Study Population

Targeted population is the total set of cases within the research problem boundaries, about which the researcher hopes to draw conclusion. The study targeted management and staff of some selected hospitals in the Sunyani Municipality. The target population of this study is 60 respondents which consist of account/finance officers, audit units, records, administration. This population was involved in the study because they interact with the staff and therefore has valuable information for this study.

3.3 Sample Size and Sampling Technique

A sample is a selected part of a population from which characteristics of the whole are estimated.

The sample size is sixteen which consist of four departmental heads namely administration, accounts, pharmacy and IT in each of the four selected hospitals in the Sunyani Municipality.

The sampling technique used for the study was purposive sampling. The purposive sampling was used for management of some selected hospitals in the Sunyani Municipality. Purposive sampling is a technique which researcher purposely choose respondents who in their opinion are thought to be related to the research topic in this regard, the researcher selected cases that are judged to typify the view of the group. Purposive sampling was employed which involves approaching and seeking data from only officials who can provide relevant data for the purpose. The advantages of this technique are as follows: it produces quick remit; it is easier researching on sampling than whole population; there is a relatively high degree of accuracy since the research deals with small numbers.

3.4 Data Collection Instruments

Primary Data is a data researcher gather for themselves, directly from individuals (Bernard, 1995). This data collection approach was used with the use of open-ended and semi-structured questionnaires and interviews guide. Questionnaires are specific questions purposefully designed to solicit information from another person (Summerhill, 1992). Interviews are face- to- face interaction between the researcher and the respondent to obtain views, opinion, concerns or answers from the respondent about a phenomena. Open ended questionnaires are without any response categories provided. However, close ended questionnaires are provided with response categories. The questionnaires were distributed by the researcher personally. The information gotten might not have come up if the researcher had used only close ended questionnaire alone.

The option used was the questionnaires and interview guide for the following reasons: Questionnaires are simpler to interpret and can be easily processed by most statistical analysis tools. They are cost efficient, mainly because of the travel time-related costs. Owing to the need to follow up on non-responders, it is usually not possible to administer a fully anonymous questionnaire. However if those performing the study agree not to expose the data to others it is possible to guarantee confidentiality. For the purpose of follow-up, it is normally preferred to label numbers on questionnaires than to use the names of respondents. However, explaining why the number is there and what it will be used for is crucial. This usually improves the response rate. Interviews also gives the researcher an opportunity to interact with the respondent to fully appreciate his/her answers.

3.5 Data Analysis

The data obtained were prepared and analysed using mixed methods. Data analysed was manual and were then presented with the aid of tables and percentages as well as narrations. The purpose of the analysis is to present the relationship between variables. Questionnaires and interview guide were the main research instruments.

3.6 Ethical Consideration

The research sought to consider the following ethical practices; First of all, the researcher ensures that the anonymity of the respondents is maintained by preserving their identity from other respondents. Moreover, the researcher also ensures that all the information's that are gathered are duly acknowledge and serve as a reference to the study. The researcher also discloses all his identity to the respondents as final year student of Kwame Nkrumah University of Science and Technology carrying out his thesis in his course, to allay the fears of respondents on the purpose of the research.

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CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter focuses on the presentation of data analysis gathered from the field. It specifically presents data on the background information of the respondents, the various accounting information systems adopted by hospitals in the Sunyani Municipality, the role of accounting information system on healthcare service delivery, and the challenges of accounting information system on the health care service delivery by the selected hospitals in the Sunyani Municipality.

4.1.0 Background Information of Respondents

This section presents and analyses data on educational level, duration of service and the position held by respondents in the hospital.

4.1.3 Level of Education

The study requested from respondents their level of education. This informed the researcher how educated and academically qualified the respondents are in the accounting and accounting related field to assure the researcher of the ability of respondents to provide knowledgeable answers.

Table 1: Educational Attainment of Respondents

Certificate attained	Frequency	Percentage (%)
Diploma	3	19
First Degree	9	56
Postgraduate	4	25
TOTAL	16	100

Source: Field Survey, 2020.

From the Table 1, it can be inferred that 19% of the respondents had Diploma certificates, 56% of the respondents had First Degree certificates and 25% of the respondents had attained master's certificates. It can be seen from Table 1 that those who had Degree certificates are the majority, meaning they understood and can make good contribution on the role of accounting information system on health care delivery in their hospitals.

4.1.4 Years of Service

The study inquired from the respondents on how long they have served in their present position in order to inform the researcher of the level respondents' experience of the system. Duration of service less than 1 year was classified as inexperience, one year to three years was classified as experienced and more than three years was classified as highly experienced.

Table 2: Years of Service of Respondents

Years of Service	Frequency	Percentage (%)
(1-11) months	0	0
1-3	7	44
Above 3	9	56
TOTAL	16	100

Source: Field Survey 2020

Out of the 16 respondents from Table 2, none of the respondent was less than one year in his/her present post, 7 respondents representing 44% have served in their present position for 1 to 3 years and 9 respondents representing 56% have served in their present position for more than 3 years.

From the study, respondents who served in their present position for more than 3 years are the majority. This means that all the respondents have a reasonable experience of the system.

4.2 The Various Accounting Information Systems Adopted by Hospitals

This section of analysis and results examined the various accounting information systems adopted by the selected hospitals in the Sunyani Municipality, the extent to which user's requirement fits into the system characteristics and the degree of fitness between user's information needs and data elements of client accounting information systems in the various units of the hospitals.

The study found that all the four (4) selected hospitals in the study adopted an accounting information system. Spreadsheet was found to be the most used Accounting information system in the hospitals. Except for Sunyani SDA hospital using Samsat, all other three hospital selected for this study namely Owusu Memorial hospital, Sunyani Municipal hospital, and Bono Ahafo Regional hospital adopted spreadsheet. Thus three (3) out of the four (4) selected hospital representing 75% of the selected hospitals adopted spreadsheet to process their accounting information. This means that spreadsheet is the most used accounting information systems within the selected hospitals.

4.2.1 Degree of Fitness of the Users' Requirement and System Characteristics

This part of the questionnaire sought to find out how satisfied respondents were with the system characteristics and the users' requirement and result were presented in table 3 below. This helped the researcher to determine whether users were satisfied of the accounting information system adopted by the hospitals.

Table 3: Degree of Fitness of the Users' Requirement and System Characteristics

Opinion	Frequency	Percentage (%)
Very Satisfied	10	63
Satisfied	6	37
Not satisfied	0	0
TOTAL	16	100

Source: Field Survey, 2020

Out of 16 respondents 10 respondents representing 63% said that they were very satisfied with the degree of fitness of the user requirement and the system characteristics of accounting information system adopted by the hospital, 6 respondents representing 37% said that that they were satisfied with the degree of fitness of the user requirement and the system characteristics of accounting information system adopted by the hospital. None of the respondents indicated dissatisfaction as to the degree of fitness of the user requirement and the system characteristics of accounting information system adopted by the hospital. This means that majority of the respondents are satisfied with the accounting information system used in their various hospitals. This findings agree with the position of Lee, et al, (2018) that, when creating a quality information system, it is important to request and integrate the feedback and requirements of managers. The input of management increases the degree of fitness of the system and the user's requirement. If a system is not in line with the requirement of the organization, its benefit is likely to be minimal. Because every organization have a unique AIS to meet its requirement (Harash, E., 2017).

Overall, it was noted that all hospitals in this study adopted an accounting information system with majority of the hospitals using spreadsheet and also majority of the AIS adopted satisfied the users' needs and expectation.

4.3. Role of Accounting Information System on Healthcare Service Delivery

This segment of analysis and results scrutinized the role of accounting information systems on healthcare delivery in the Sunyani Municipality. To achieve this, an interview was conducted with heads of departments (Administration, Accounting/ Finance, Information Technology) of the hospitals to state the effects AIS adoption had on healthcare delivery in their various hospitals. The respondents pointed out that, accounting information systems plays a significant role in healthcare delivery. Among the role it plays include quality financial reports, quick and better decision-making, and effective financial administration.

Information and data has become a major driver of globalization (Jawabreh & Alrabei, 2012) and therefore the credibility of financial report should be assured. Respondents indicated that a good accounting information system guarantees the quality of financial reports. Financial reports includes the income statement, statement of financial position, cash flow statement, changes in equity, sales and purchases ledgers etc. These reports guide the effective and efficient decision making of management which ensure proper utilization of limited resource. Budgets monitor's appropriation of resource and the vote ambit of every expenditure item. Bawaneh (2014) posited that, products and services quality is improved with the adoption of AIS thereby reducing spoilage of materials

In addition, Fengyi et'al (2005) argued that AIS plays an effective role in enhancing modern organizations' financial management, especially in the health sector, by providing an integrated value chain framework, rapid financing services, excellent allocation and payment of funds, global

capital logistics services and cost savings. Kaka and John (2010) found that the use of AIS in hospitals strengthened the hospital image and helped solve the problems of service and planning, contributing to a larger and more successful financial administration. This study equally revealed that AIS aid in effective financial administration on healthcare delivery. Adoption of AIS in hospitals enables management to utilize the limited resource at their disposal for optimum gain.

Undoubtedly, the quality of decisions is dependent on the substance and accuracy of accounting information provided by systems being utilized by organizations. Al Shobaki, et al, (2017) noted that when the information collected for decisions comes from an accounting information system, quality decisions of the decisions are guaranteed. AIS presents real time data and information which enable better decision making. Decision are also timely because financial date needed for analysis and formation of opinion is readily available. Salehi, et'al, (2010) argued that the implementation and effective use of accounting data will allow organizations to handle short-term issues in areas such as costing, spending and cash flow by providing data to support monitoring and control.

Fagbemi, et al. (2016) notes that in the global competitive climate, AIS plays a major role in increasing the competitiveness of enterprises.

4.4. The Challenges of Accounting Information System on the Health Care Service Delivery

This part of the analysis and results examined the challenges of accounting information system adoption on healthcare delivery. All respondents agreed that there exist challenges with the adoption of accounting information system. Respondents identified learning the system, loss of vital information, high cost of maintenance, unfriendly system characteristics and skilled labour instability as the challenges with the adoption of AIS.

Knowledge of how every system works is crucial in attaining a benefit of its installation. Interaction with staff of the selected hospitals indicated that, operators of the accounting systems are sometimes limited in knowledge as to how the system works. It can take a person weeks or months to understand an accounting system, and the individual will typically still not have a full understanding of the system. It will take a reasonable time to train another employee if the employee ceases to work in hospitals. IS and IT managers with the requisite expertise and skills are likely to be more engaging, constructive and efficient and appear to have a positive attitude towards IS and IT (Jarvenpa & Ives 1991).

Information systems for accounting are typically computerized. There is always a chance of losing information through power outages or system crashes because of this. There is a possibility that all the information in the system will be lost as this occurs. The financial information of a company is preserved for years by accounting information systems. When a machine crash happens, the business is seriously impaired. All, or some of the information is lost, and there might be a poor likelihood of recovery. Information systems are mostly very expensive to manage after installation. IS designed by external IT expert will likely have to be periodically examined for challenges or update. This activity is usually not cost free but have to be paid for by the organization. When resource are not available for such activity, the organization risk malfunctioning of the system which can throw the hospital (organization) into an operational difficulties.

Sometimes, if the system is not internally build, it may possess unfriendly feature to users. Institutions may have a varied features of their information system and may not exactly match the requirement of the users. Such systems are general purpose system and may contain features that do not relate to the hospital requirement.

Finally, labour stability is derived from their condition of service. Even more often in the public organizations is the unexpected transfer of labour. When person's with adequate knowledge of the system is transferred or relieved, another staff may have to be trained in that position and may not instantly be experienced with the system which can lead to punitive mistakes to the organization. This coincide with Pérez et'al, (2010) that even when accounting information systems are successfully installed, the use of these technologies often faces challenges such as update, data recovery, maintenance cost, security and operational knowledge



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The final chapter of this research work focuses on summary of key findings, conclusions, and recommendations of the study. It summarizes key issues of the research results pertain to the work contained within and that may influence future research on the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality.

5.1 Summary of Findings

This research is a mixed of both quantitative and qualitative study that aimed at examining the role of accounting information systems (AISs) adoption on healthcare delivery in the Sunyani Municipality in the Bono Region of Ghana. The specific objectives of the study were to identify the various AIS adopted by hospital in the Sunyani Municipality, assess the role of AIS on healthcare delivery in the Sunyani Municipality, and identify problems hospitals in the Sunyani Municipality encounter with the adoption of accounting information systems. Questionnaire and interview guide was the instrument used in soliciting respondents' views to address the research objectives and after administering questionnaires and conducting interview with sixteen (16) respondents, the study made various findings as follows.

Studying the background of the respondents, the study shows that majority of respondents had tertiary education and could effectively examine the role of accounting information system on health care delivery in their respective hospitals. Majority of the respondents have served in their position for more than 3 years which means respondents from the selected hospitals have reasonable knowledge and experience in the system and accounting related issues.

On the various accounting information systems adopted by hospitals, the study found that all selected hospitals for this study adopted an accounting information systems. Spreadsheet was adopted by majority of the selected hospital in the study. Out of the four hospitals considered in the study, three hospitals namely Sunyani Regional Hospital, Sunyani Municipal Hospital, and Owusu Memorial Hospitals all adopted spreadsheet as their information system. Samsat was another accounting information system used by the hospitals, with Sunyani SDA Hospital adopting it as its information system. The study further found that the accounting information system adopted by the hospitals to a large extent addressed the requirement of the users. This user requirement was met largely because majority of the hospitals adopted spreadsheet which was built internally.

Examining the role of accounting information systems on healthcare service delivery, the study found that using accounting information systems significantly affect quality of healthcare delivery. Management of hospitals are the drivers of quality healthcare since their decisions chart the direction and performance of the hospitals. The quality of this decisions are based on accurate, reliable, and timely information availability to management since management decisions are informed by the information generated by the information system, it can be confidently said that adoption of accounting information result in quality healthcare services. Accounting information system software, according to previous research, would probably enable healthcare delivery to increase its overall efficiency (Nwinee et al., 2016; Nabizadeh and Omrani, 2014). The research equally revealed that using accounting information system can influence administrative effectiveness. Management is effective if their objectives are attained. Accurate and material information relating to financial activities presented in a timely manner guide's the actions of management toward the stated objectives. It is of no doubt that accounting information system is

able to generate accurate and material information anytime it is needed. The effectiveness of management can be enhanced with the adoption of AIS because some of the systems will permit management to monitor staff activities at the comfort of their offices. Internal control measures are also designed in these systems to regulate the conduct of users of the system. Also, good decisions are made with the help of an accounting information system. The system presents material information that informs and guide the actions of management and accord them with reason for their decisions. Finally, AIS result in better financial reporting which agrees with the study of (Onaolapo and Odetayo, 2012). Reporting of financial activities is made simple with the use of AIS. Matching of period to period, organizational performance, state of financial position, contingent liabilities etc. are easily presented in an understandable manner with the aid of AIS. Even sometimes AIS is able to generate charts and animation which further explain the situation to persons who are not clothed with accounting knowledge.

As no system exist without a challenge, the study found that learning of the system was a challenge to most of the hospitals particularly the public hospitals where the hospital have no control of the movement of labour. Some of the users may not have basic knowledge on computer and this could as a barrier to acquiring the requisite knowledge to operate the system. A lack of knowledge or inadequate knowledge of the system can make AIS dangerous to institutions. Another challenge found by the study was loss of information. Most often, poor maintenance culture in the facilities result in computers breaking down and sometimes even getting burnt. This most often result in a complete loss of important information. When this information is missing, it can affect quality service delivery at the hospital to the extent that vital information to formulate decisions would not be available. Again, high cost of system maintenance is another challenge found by the researcher. The delay in payment of the National Health Insurance Authority denies the facilities

timely receipt of funds thereby making it difficult for budget execution. Fund is the blood of every institution and when an institution become financially anaemic, it is bound to run into difficulties. Where a hospital procure a system from developers, the developers have to maintain the system at a cost and failure to meet the financial commitment may result in halting of the service. Finally, skilled labour instability was found to be one of the biggest challenge with the adoption of accounting information systems. Persons trained on the system could be transferred or reassigned by the regional health directorate to another place leaving such position vacant or filled with a person who lack knowledge of the system. Time again have to be spent to train the new person again.

5.2 Conclusion

On the basis of the findings of this research, it could be concluded that all hospitals in Sunyani Municipality used an accounting information system.

It can also be concluded that, spreadsheet is the most common accounting information system used by hospitals in the Sunyani Municipality

Furthermore, a conclusion can be drawn that accounting information systems plays a significant role on healthcare delivery by enhancing administrative effectiveness, quality financial reports and also leads to better decision- making.

Finally, the study concluded that, system knowledge, cost of maintenance, loss of information and labour instability are challenges associated with the used of accounting information system by hospital in Sunyani Municipality

5.3 Recommendations

After analyzing the findings of this research as well as the conclusions made, the researcher came up with some recommendations which may be of help in improving healthcare in the hospitals.

It is recommended that, hospitals periodic training of staff on the use of the Accounting information system should be compulsory to ensure a constant update of staff knowledge on the system and hospitals which are not capable of training its staff should hire persons with adequate computer knowledge to temporary avoid the challenge of knowledge deficiency of accounting information system.

It is recommended that, users of the system should if possible backup their data in an external storage device to avert the challenge of losing it. Management should also adhere to the periodic maintenance schedule for all computers and it related component to prevent a sudden breakdown of any computer or its attachments. Anti-virus software should also be installed on all computers where AIS is installed.

It is equally recommended that, hospitals should dialog with the regional human resource manager to consider the duration of service of users of the system before effecting their transfer to ensure efficient use of the system. Hospitals are also advice to train many staff on the use of their AIS so that the absence of one or two people from post will not bring the operation of the system to a halt.

It is also recommended that the hospitals should provide all necessary equipment, environment and resources to ensure hospitals have full benefit of the accounting information system. Procurement of computers should be done at trusted sources and a good working environment should be created for its functionality.

Finally, it is recommended that the hospitals should develop their accounting information system internally or request staff input in building the accounting information system to improve upon the degree of fitness of the system and the activities in the hospitals.



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APPENDICES 1

QUESTIONNAIRES

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING AND FINANCE

Questionnaires for Head of Department

I am a postgraduate student pursuing my MSC accounting and finance at the Kwame Nkrumah university of science and technology and conducting a research entitled “the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality” as one of the major requirements for the award of master’s degree in accounting and finance, please you are requested to assist in this research which is only for academic purpose. Confidentiality is here by assured.

Please tick (✓) the appropriate box or fill where necessary

1. Name of Hospital.....
2. Highest Education attained: Diploma [] Degree [] Master’s Degree []
Others (specify).....
4. Years of service in present post: 1-11 months [] 1-3 years [] Above 3 years []
5. What is your position in the Hospital?
6. How satisfied are you with the AIS? Very satisfied [] Satisfied [] Not satisfied []

APPENDICES 2

INTERVIEW GUIDE

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING AND FINANCE

Interview Guide for Head of Department

I am a postgraduate student pursuing my MSC accounting and finance at the Kwame Nkrumah university of science and technology and conducting a research entitled “the role of accounting information system on health care delivery in some selected hospitals in the Sunyani Municipality” as one of the major requirements for the award of master’s degree in accounting and finance, please you are requested to assist in this research which is only for academic purpose. Confidentiality is here by assured.

1. Do your hospital use an accounting information system?
2. If (1) is yes, what is the name the accounting information system?
3. What role does accounting information systems play in healthcare delivery at your hospital?
4. What challenges are do you encounter with the use of accounting information system?

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