UNIVERSITY OF EDUCATION, WINNEBA

EXAMINING THE KNOWLEDGE OF HEALTH PROFESSIONALS AND THE BARRIERS ENCOUNTERED IN USING BALANCED SCORECARD FRAMEWORK: A CASE STUDY OF QILU HOSPITAL OF SHANDONG UNIVERSITY AND ZION PRAISE HOSPITAL

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MASTER OF SCIENCE DISSERTATION

2021

UNIVERSITY OF EDUCATION, WINNEBA

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A dissertation in the Department of Information Technology Education, Faculty of Applied Sciences and Mathematics Education, submitted to the School of Graduate Studies in partial fulfilment of the requirements for the award of the degree of Master of Science (Information Technology Education) in the University of Education, Winneba

MAY, 2021

DECLARATION

STUDENT'S DECLARATION

I, **MAVIS ADDAI BOATENG,** declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole for another degree elsewhere.

SIGNATURE:……

DATE:…….

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of dissertation as laid down by the University of Education, Winneba.

DR. EBENEZER BONYAH

SIGNATURE:……

DATE:…….

DEDICATION

This thesis is dedicated to everyone in my country, continent, and the world contributing to economic and social measures in preventing and fighting these diseases (COVID-19). Hopefully, this will surely pass and we will soon get back to our normal life.

ACKNOWLEDGEMENT

I would like to thank my supervisor, Dr. Ebenezer Bonyah for his patience and guidance on this thesis. His encouragement of how great my work can be through perseverance and commitment was very helpful. I would like to thank my colleague ever-available assistance was much appreciated not forgetting, Isaac Ampofo Atta Senior. Thank you very much.

Furthermore, I would like to thank my family and friends for the immeasurable support during this programme and this thesis. They have been the backbone to my advancement in life. Lastly, I thank God Almighty for his grace and blessings during this programme.

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ABSTRACT

Hospitals across the world have advanced through the use of balanced scorecard to making a technique interpretation into objectives and measures. The balanced scorecard helps hospitals to feature both non-financial and financial performance measurement towards their vision and objectives. This study sought to examine the knowledge of health professionals and barriers encountered with the use of Balanced Scorecard for hospital management. Explanatory research design with a quantitative research approach was adopted for the study. The total population for the study was 3,560 with a sample size of 360. Stratified sampling was used for sampling nurses, doctors, administrators and other staff at Zion praise hospital and Qilu Hospital. The study used questionnaire in gathering data for studying the issue under investigation. Tools and software that were used for analyzing the data were SPSS and Microsoft Excel. The study revealed that health professionals know the use of balanced scorecard. The study concluded that the use of balanced scorecard is not complicated, too expensive, time-consuming, and not difficult to cope with. The study recommended that hospitals in Ghana should use a balanced scorecard to enhance their hospital management.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Because of the developing interest for quality and accountability in medicinal services (Lin, Liu, Liu, & Wang, 2013), comparative quality measurement within the health sector has gotten progressively significant for various partners, including policymakers, health care providers, and buyers (El-jardali, Saleh, Ataya, & Jamal, 2020). Healthcare providers hope to utilize Information System (IS) to pick up the upper hand that Information System typically gives (Pereira et al., 2020). A Health Information System (HIS) is a coordinated system that includes individuals, procedures and technologies to help healthcare services (Alharbi, Atkins, Stanier, & Al-buti, 2016) and incorporates financial, managerial and clinical viewpoints. The advantages of executing Information System solutions in medicinal services associations incorporate upgrading clinical works on, supporting decision making processes and improving information sharing (Alharbi et al., 2016). Some healthcare providers are receiving multi-dimensional performance evaluation systems to assist them with accomplishing their missions (Chen, 2006).

The Chinese hospital system is vast, with more than 20,000 hospitals, dominated by public hospitals (Gao & Gurd, 2015). Since the mid-1980s, the Chinese Government has tightened budgets (Gao & Gurd, 2015), with the state subsidy to public hospitals set at less than 10% of expenditure (Gao & Gurd, 2015). Accompanying this has been the granting of more autonomy to public hospitals to find new financial resources from specialized services and pharmaceutical sales (Gao & Gurd, 2015). In this changing context, management innovations appear to be welcome (Gao & Gurd,

2015). The BSC, one of those innovations, has grown significantly in China. Qilu Hospital of Shandong University in Shandong Province in the Republic of China is one of the best hospitals in China and ranks number one in the province of Shandong (Liu et al., 2020). The hospital uses a balanced scorecard in the management of the hospital.

Zion Praise Hospital at Kona in the Sekyere South District uses hospital administration management system which is not able to measure performance assessment while other hospitals in the developed countries use a health management system which helps them to measure performance. A management system used for the most part by clinics around the globe is a balanced scorecard (BSC) (Zhou, Zhou, Yüksel, Dinçer, & Uluer, 2020). The balanced scorecard (BSC) is progressively being used as one such framework, quite as an extended arrangement of performance indicators (Chen, 2006). The BSC has advanced from an administration reporting to a vital instrument used by executive teams to set system, adjust tasks, and communicate with inner and outer partners (Rabbani, Wasim, & Abbas, 2010). The structure of the four perspectives of the BSC (financial, customer, operations, and competence) (Hoque, 2013) help to make an interpretation of technique into objectives and measures (Gumbus, 2005). The balanced scorecard was begun by Robert Kaplan (Harvard Business School) and David Norton (Renaissance Solutions Inc.) (Grigoroudis, Orfanoudaki, & Zopounidis, 2012) and was first acquainted with address the restrictions of single-dimensional performance measure and was professed to be an exhaustive vital administration system for connecting an association's long term objectives and local activities (Chang, 2007).

The BSC grants organizations to feature both financial and non-financial performance measurements in four perspectives for building and actualizing organizational strategy (Tuan, 2010) and adjusting organizational performance with organizational vision and technique. The use of BSCs in health care settings is rising too (Tuan, 2010). In healthcare, the BSC is the "feast for now", with specialists buttressing this "phenomenal treatment" (Tuan, 2010). As reflected in the citation above, central government endeavored to receive balanced scorecard way to deal with improve local NHS associations' performance in conveying its long-term objectives (Benková, Gallo, Balogová, & Nemec, 2020). Progressively there have been some expanding reactions of the design, in any case, and key ideas of this framework (Chang, 2007).

The balanced scorecard, performance measurement and strategic management system proposed by Kaplan and Norton (Chan, 2001), can be an invaluable tool to both government and private hospitals in transforming their hospitals. The balanced scorecard is a client-based planning and process improvement framework, with its essential spotlight on driving an organization’s change process by distinguishing and assessing appropriate performance measures (Guix & Font, 2020). A few investigations in Europe and North America have indicated that somewhere in the range of 30% and 60% of medium-size and big organizations have essentially amended their measurement frameworks over the most recent 10 years (Bisbe & Barrube, 2012). The BSC is one of the most broadly used of the new age of performance measurement frameworks. For instance, an ongoing report by the Bain consultancy demonstrated that, of the total sample of more than 1200 enormous organizations, 44% used result measurement systems, for example, the BSC or comparable (Bisbe & Barrube, 2012).

In a review on the usage of BSC in medicinal services organizations, Chan detailed that 43 Canadian clinics, about 8% of a random sample of 555 hospitals, have implemented BSCs for their organizations (Chan, 2006). Moreover, around 75% of the adopters showed that their involvement with BSC implementation has been very effective (Chan, 2006). This self-assessment on the accomplishment of executing BSC represents the adopters' general view of the implementation process of BSC in their organizations, which is not identified with the accomplishment of particular targets and performance perspectives in their organization's BSC (Chan, 2006). In a similar review, administrators of the Canadian hospitals that have actualized BSC anticipated that use of BSC in their organizations would change essentially over the five years after its usage (Fuchs et al., 2020). The enthusiasm of healthcare organizations (Chan, 2006) in actualizing BSC keeps on developing, and in this manner, health service directors need to have a decent understanding of its execution issues to guarantee a smooth and effective appropriation of BSC as a key administration device in their organizations.

1.2 Statement of the Problem

Negative public opinion about hospitals and health professionals may be the result of too much emphasis on finance to the detriment of quality, patient needs (Gao & Gurd, 2015) and patient affordability (Gao & Gurd, 2015). Hospitals and hospital professionals have been both 'pushed and pulled' to administer to patients unnecessary and sometimes even harmful high-tech medicine and expensive drugs (Gao & Gurd, 2015). As a result, there has been a rapid increase in expenditure, the erosion of professional ethics (Gao & Gurd, 2015) and reduced efficiency (Gao & Gurd, 2015). There has been rising dissatisfaction from healthcare professionals and

patients at Zion Praise hospital in the Sekyere South District of Ashanti region of Ghana. Zion Praise Hospital at Kona in the Sekyere South District uses hospital administration management system in their day to day activities.

They are not able to use the software to measure performance and if they want to they have to do it manually by collecting the data from the management system and using other external tools to measure their performance. Therefore, the essential goal of a non-profit performance management system is to decide how well a company is satisfying its mission (Grigoroudis et al., 2012). Management team need a framework for understanding and managing performance in a coordinated manner. Studies likewise demonstrated that there are questions about the benefit of actualizing Hospital Information Technology ventures among health experts and medical clinic heads (Alharbi et al., 2016). Various stakeholders usually work in confinement and that each the group organizes its own advantages inside the health community (Zion Praise Hospital) at Kona in the Sekyere South District.

With the use of hospital administration management system by the Zion Praise Hospital at Kona in the Sekyere South District, the clinicians think they really should run the services. The managers think they are running it. Furthermore, interestingly, separate from the manager are the group who are the finance individuals, they think they are running it. Some of the time individuals can stroll into their own clan and simply take a gander at their own advantages. Along these lines, you can get circumstance where financial balance comes above doing the correct things for the correct patient (Finch et al., 2020). The above contention implies that the key partners whom performance managers needed to manage may have conflicting interests (Al-

Nawab, 2020). So as to convey their patients' needs, the researcher believes that it is fundamental that key partners should work agreeably. The researcher conducted an interview with the workers at Zion Praise Hospital to know their prime goal. After the interview, the researcher observed that everyone at Zion Praise Hospital put on the top of the patient's interest, which is the outcome, access, and choices.

The administrators of Zion Praise Hospital have been battling with financial problems, performance measurement and management (Chan, 2006). At Zion Praise Hospital, they do not have the effective measurement of corporate performance and the evaluation of the successful implementation of corporate strategy (Grigoroudis et al., 2012). Significant changes have expanded the unpredictability of the health condition, and there is a developing need to accommodate the quality improvement of services with economic supportability and reasonable financial frameworks (Trotta, Cardamone, & Cavallaro, 2013). Performance measurement and productivity in health care are significant issues to people and at a national level (Walker, 2015). Concern by hospital management for performance and productivity measurement has developed with respect to reductions in government subsidizing for health services, pressure from organizations and insurance agencies, and open worries about the increasing expenses of health services (Walker, 2015). The medicinal services industry at present faces impressive key difficulties and strong pressure to turn out to be increasingly receptive to clients' requests by at the same time improving quality and proficiency (Lin et al., 2013).

1.3 Purpose of the Study

The purpose of the study was to examine the knowledge of health professionals and the barriers encountered with the use of Balanced Scorecard for hospital management.

1.4 Research Objectives

These were the objectives for the study:

1. To assess the knowledge of Nurses, Doctors, Administrators and other hospital staff on the use of balanced scorecard.
2. To identify the relationship between the use of balanced scorecard and their hospital management system.
3. To determine the barriers that are encountered by hospitals in adopting the BSC.

1.5 Research Questions

These were the questions for the study:

1. What is the knowledge of Nurses, Doctors, Administrators and other hospital staff on the use of balanced scorecard?
2. What is the relationship between the use of balanced scorecard and their hospital management system?
3. What are the barriers that are encountered by hospitals in adopting the BSC?

1.6 Significance of the Study

Non-profit organizations need an increasingly viable system of developing and analyzing information. We feel that BSC has been used effectively as a framework to organize various comparative indicators to benchmark and suggest methods of improving Ghanaian hospital performance. When we use BSC to compare hospital performance in different countries, it can provide a clear and comprehensive understanding of hospital performance and can suggest areas for improvement. The findings of this study will at this point help to illuminate Policy Makers on their aim of managing hospitals to improve upon their information system use. The findings will also give an insight to all stakeholders including the Ministry of Health, Doctors, Patients, Nurse and others. The findings of this research will additionally uncover the accomplishments chalked concerning the measurement of performance to determine how well the hospital is fulfilling its mission.

1.7 Delimitation of the Study

The study was delimited to Qilu Hospital of Shandong University in Shandong Province in the Republic of China and Zion praise hospital at Kona in the Sekyere South District of the Ashanti Region, Ghana.

1.8 Organization of the Study

The study has been categorized into five chapters.

Chapter One (1): Introduction; this chapter describes the introduction of the study, a background of the study, statement of the problem, the purpose of the study, research questions or hypothesis, significance of the study, limitations of the study, delimitations of the study, definitions of terms and organization of the study.

Chapter Two (2): Review of literature; Introduction; it gives a brief about the introduction by restating the purpose of the study and describing briefly the content of the chapter, theoretical framework of the study, the empirical basis of the study.

Chapter Three (3): Methodology; Introduction; it gives a brief about the introduction by restating the purpose of the study and describing briefly the content of the chapter, research design, population and sampling, data collection instruments, intervention design and implementation, data collection procedures, data analysis.

Chapter Four (4): Results of the study; Introduction; it gives a brief about the introduction by restating the purpose of the study and describing briefly the content of the chapter, pre-intervention results, post-intervention results, discussion of post-intervention results.

Chapter Five (5): Summary, conclusion and recommendation; Introduction; it gives a brief about the introduction by restating the purpose of the study and describing briefly the content of the chapter, summary of the study, conclusion, recommendation and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The purpose of the study was to examine the knowledge of health professionals and the barriers encountered with the use of Balanced Scorecard for hospital management. For this reason, it was necessary to review literature related to the topic. Information was gathered from papers, extracts, the internet, books, and works people have done on the present topic. The review covered the theoretical framework of the study, the conceptual basis of the study and empirical review.

2.2 Theoretical Basis of the Study

The following theories were reviewed; Technology Acceptance Model, Information Processing Theory and Institutional Theory. The researcher used these theories to support the study.

2.2.1 The Technology Acceptance Model

Developed from the theory of reasoned action, the technology acceptance model clarifies user acceptance of technology-dependent on client perspectives (Rafique, Almagrabi, Shamim, Anwar, & Bashire, 2020). These model perspectives, the causal connections as basically unidirectional, with the environment impacting psychological convictions, which impact mentalities and conduct. It recommends that two explicit conduct convictions, perceived ease of use and perceived usefulness, decide a person's expectation to use balanced scorecard (Schmidthuber, Maresch, & Ginner, 2020). Given the technology acceptance model, individuals' perceptions concerning the usability of the balanced scorecard will decidedly impact their expectations to keep on

using the balanced scorecard (Kamal, Shafiq, & Kakria, 2020). In a meta-analysis of user technology acceptance, past studies found that perceived ease of use has demonstrated a noteworthy impact on perceived usefulness in most studies (Lah, Lewis, & Šumak, 2020). This proposes users who see the balanced scorecard as a simple technology to use will accept that the balanced scorecard is helpful (Razmak & Bélanger, 2018). Perceived enjoyment alludes to the degree to which the activity of using balanced scorecard is seen to be enjoyable in its own right, aside from any performance results that might be envisioned (B. Rahimi, Nadri, Afshar, & Timpka, 2018). Rather than analysing the effect of a balanced scorecard, this study centres on the aim of hospitals to keep on using the balanced scorecard (Kamal et al., 2020). Whether balanced scorecard knowledge, as well as typical technology acceptance model factors, influence individuals' repeated use of the balanced scorecard after they accepted it, receives little scholarly attention and as a result considered as part of this study.

2.2.2 Information Processing Theory

The theory of information processing accepts the information as the basic means of learning and explains learning in terms of the memory system (Çeliköz, Erişen, & Şahin, 2019). It focuses on how health information is stored into the memory of the computer, how it is stored there and how it is retrieved in case of need. In the theory of information processing, the process starts with receiving the stimulus coming from outside through sense organs and goes on with describing and storing of these stimuli (Hill, 2020). This stored health information can be retrieved and used when necessary (Kim & Kim, 2020). This system is compared to computer systems and it is shown with a model expressed as the model of information processing (Schema 1). Model of

information processing is composed of three main elements such as (1) information stores, (2) cognitive processes and (3) executive cognition. The term Information stores are the first element of the information processing model and refer to the places where information is stored (Liu, Lu, Zhao, & Zhan, 2020). It is composed of three different types of memory such as (1) sensory or memory, (2) short-term memory (processor) and (3) long term memory. These are the steps of information processing at the same time.

The stimuli received from around firstly go into sensory memory through sensory organs. Then, the raw information here is transferred to processor memory with the help of attention and perception. In the processor memory, raw information is made sense utilizing thinking over them and uniting them with the information in the long-term memory (Liu et al., 2020). Here, information is forgotten or transferred to long-term memory to keep utilizing meaningful coding. Long-term memory is the memory where information is continually stored. Procedural memory is a part of the long-term memory which is responsible for knowing how to do things, i.e. memory of motor skills (Çeliköz et al., 2019). It does not involve conscious thought and it is not declarative. For example, procedural memory would involve knowledge of how to make a meal, how to ride a bicycle, as it is related to the steps or procedures to follow. It includes skills such as “knowing how” to play the piano, ride a bike, tie shoes and other motor skills (Hill, 2020).

Semantic memory is a part of the long-term memory which is responsible for storing information about the meaning of words as well as general knowledge (Kim & Kim, 2020). For example, Ankara is the capital of Turkey. Semantic memory involves conscious thought and is declarative. The knowledge in semantic memory focuses on

"knowing that" something is the case. Episodic memory is a part of the long-term memory which is responsible for storing information about events or episodes of an event experienced in life (Çeliköz et al., 2019). Episodic memory is conscious thought and it is declarative. A child who remembers the first day at school or a person who remembers the details of experiencing an accident or undesired happening or disaster uses episodic memory. It is declarative because the knowledge in episodic memory focuses on "knowing that" something is the case. The second element of the information processing model is Cognitive Processes**.** Cognitive processes are mental activities that help information to transfer from one memory to another (Hill, 2020). These are composed of processes such as attention, perception, repetition, coding and retrieving.

In the cognitive process, the information, which is wished to be learnt, is chosen to employ attention as a stimulus or raw information among other information, and it is turned into meaningful information through perception (Kim & Kim, 2020). Those pieces of information that are wished to be kept forever are transferred from processor memory to long term memory through repetition. Through coding which means the formation of mental symbols of information, information is transferred to long-term memory and stored there (Çeliköz et al., 2019). When information is wished to be used again, the process of retrieving (remembering) comes foreground, and the wanted information is looked for and found among the information stored in the long term memory and then it is transferred to processor memory for use. Learning individual does this sometimes intentionally and sometimes automatically. Forgetting, as opposed to retrieving or remembering, means eliminating information from the memory of not being able to retrieve it when needed. The third element of the

information processing model is composed of executive processes called cognition information or executive cognition (Liu et al., 2020). Executive cognition maintains that information stores and cognitive processes to operate in harmony in information processing (Çeliköz et al., 2019). Executive cognition has an individual quality, and the learning individual controls and directs cognitive processes known as attention, perception, and repetition coding and retrieving with his/her own cognition information (Çeliköz et al., 2019).

2.2.3 Institutional Theory

To that end, this paper highlights the potential for Institutional Theory (IT) to render an in-depth understanding of the change processes associated with the adoption and implementation of IFRS1 by organizations and countries. We highlight research possibilities that arise from combining IT with international accounting. This leads us to propose an agenda for future research (Guerreiro, Rodrigues, & Craig, 2020). This special issue addresses such institutional processes and in this introductory article, we explore how insights from institutional theory contribute to our understanding of such profound changes. Institutional theory instead foregrounds the macro level, assessing the positions and actions of interdependent actors in institutional contexts (Wijk, Zietsma, Dorado, Bakker, & Martí, 2019), and considering seriously the idea that rules, norms, and beliefs are socially constituted, negotiated orders (Wijk et al., 2019), which can be renegotiated to promote social innovations (Wijk et al., 2019). The theory's proponents have subsequently provided a broader account of performativity, including the role of public policy and organizational forces (Beunza, 2019). Institutional theory has been mainly applied at an organizational level (Bashir, 2019). On the other hand, it can also be applicable at an individual level. According to Scott

et al. (2001); Bozan, Davey, and Parker (2015); Gao and Yang (2015); Jan, Lu, and Chou (2012); Bozan, Parker, and Davey (2016) as cited in (Bashir, 2019), institutional theory can be applied at the individual level from various arenas of studies such as education, E-learning, and health care.

2.3 Conceptual Framework of the Study

The following concepts will be reviewed; knowledge on the use of a balanced scorecard, barriers to the use of balanced scorecard, and the use of balanced scorecard.

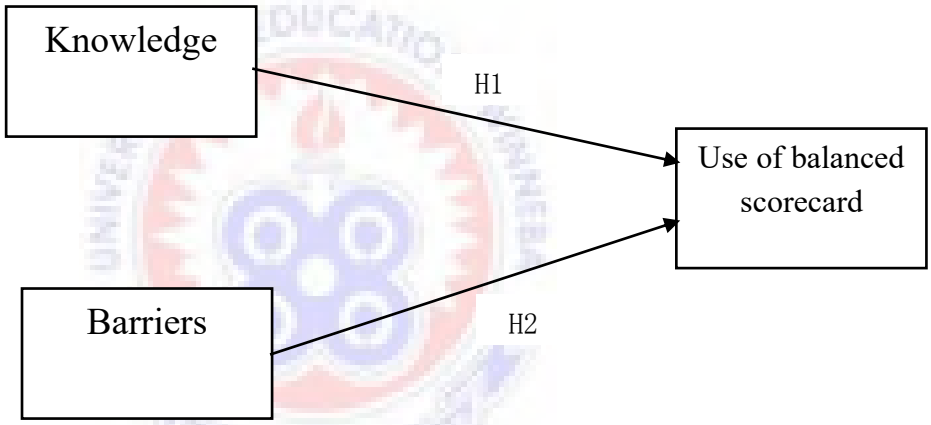

Figure 1: Researchers' conceptual framework

Source: Researchers field of study

2.3.1 Balanced Scorecard and Municipal Governments

The balanced scorecard is a performance measurement and strategic management system. It deciphers an organization's mission and strategy into a balanced set of incorporated performance measures (Rahimi, Kavosi, Shojaei, & Kharazmi, 2017). It supplements the customary financial perspective with other non-financial perspectives, for example, consumer loyalty, the inner business process just as learning and development (Kaplan & Norton, 2001). It additionally blends result measures, the slacking pointer, with performance drivers, the leading indicator, since

"result measures without performance drivers do not convey how the results are to be accomplished". By choosing fitting performance drivers and result in measures to fit in the theory of business in a chain of circumstances and logical results relationship, the organization will have a superior thought of how to accomplish its potential competitive advantage (Ojah, Malik, & Ali, 2019). The balanced set of performance measures, likewise, recounts to a compact yet complete anecdote about the accomplishment and performance of the organization toward its crucial objectives. It gives an all-encompassing perspective on what's going on in the organization.

By tying these performance measures to rewards, the balanced scorecard guarantees that workers will do what is best for the organization (Kaplan & Norton, 1996). The initial phase in planning a balanced scorecard is the recognizable proof of strategic objectives. Concession to the key objectives is required before scorecard measures can be developed (Ojah et al., 2019). The balanced scorecard is just as complete and able as its designer. Something else, the scorecard measures probably will not mirror the organization's mission and strategies. As portrayed by Kaplan & Norton (1996, p. 105), the user process can be divided into four phases:

1. Interpreting the vision and gaining agreement.
2. Communicating the objectives, defining objectives and connecting techniques
3. Setting targets, dispensing assets and establishing milestones.
4. Providing feedback and learning.

As in other for-profit and service organizations, appropriation of the balanced scorecard can help metropolitan chairmen in achieving the accompanying strategic planning and control capacities (Rahimi et al., 2017): explain and gain agreement about strategy; convey procedure all through the organization; adjust departmental

and individual objectives to the technique; connect strategic goals to long haul targets and yearly spending plans; recognize and adjust vital initiatives; perform occasional and systematic strategic surveys; and get criticism to find out about and improve strategy (Kaplan & Norton, 2001). Notwithstanding narrative reports on the positive experience of actualizing the balanced scorecard in the for-profit sector, there is developing proof on its application in the for-profit sector, particularly the government sector where execution estimation and the executives have been an issue of worry among managers (Kaplan & Norton, 2001).

Among the pioneers who have used the balanced scorecard for strategic administration, the West Mercia Constabulary (Ojah et al., 2019), which gives policing services to the fourth biggest police territory of the UK, finished its Performance Indicator. The management system in May 1997, in light of the improvement of a balanced scorecard. In the constabulary, the balanced scorecard has been incorporated into the administration process (Kaplan & Norton, 2001). It gives management with a structure for performance review, assists management with distinguishing issues and improves performance. The City of Charlotte, North Carolina, the United Way of Southeastern New England and New Profit Inc., a venture capital philanthropic fund based in Boston, have used the balanced scorecard to rethink their strategic need just as to focus and make an incentive for their clients (Kaplan & Norton, 2001).

As in other not-for-profit organizations, these organizations need to concentrate their constrained resources on explicit goals and constituents. They started the execution by rethinking their vision and technique with an over-arching target set at the highest

point of the balanced scorecard (Rahimi et al., 2017). With significant level objectives characterized by their customers and financials, the agencies then developed action plans that empower high-level objectives to be accomplished. In these applications, the financial perspective does not need to be at the highest point of the order of authoritative goals as in for-profit organizations (Kaplan & Norton, 1996). The scorecard can be changed to incorporate performance perspectives not fused in Kaplan and Norton's unique balanced scorecard. Kaplan & Norton (2001) presumes that the balanced scorecard, as an apparatus, is useful in the administration of not-for-profit organizations in overcoming any issues between vague mission and strategy proclamations with everyday operational measures; encouraging a process by which an organization can accomplish strategic focus (Ojah et al., 2019).

Also, moving the organization’s concentration from projects and activities to the results the projects and initiatives should achieve; helping organizations to stay away from the fantasy that they have a strategy since they are dealing with an assorted and non-cumulative set of programs and initiatives; and empowering organizations to adjust initiatives, departments and people to work in manners that fortify one another so sensational performance upgrades can be accomplished (Rahimi et al., 2017). With developing enthusiasm for improving performance management in the government sector, the balanced scorecard can be an important administration instrument that addresses the issue for development and change (Kaplan & Norton, 1996). What follows are the outcomes of a review of civil chairmen regarding their organization’s involvement in the performance measurement system just as the balanced scorecard.

2.3.2 Health Care Industry Needs

In the present society, the test of managing costs in a medicinal services organization requires health care financial managers to assume a considerably bigger job in key and operational decision-making (Burns & Pauly, 2018). The strategic duties may incorporate figuring out which equipment investments are advocated, dissecting merger opportunities, and assisting with deciding suitable sourcing strategies (Chalikias & Drosos, 2016). The operational obligations may incorporate helping working directors comprehend the financial effect of their everyday choices, supporting process improvement initiatives, recognizing which activities add an incentive by upgrading service to clients and which do not (in this manner making waste), and giving both financial and non-financial performance indicators (Pineno, 2018). Various changes happening in the health care commercial centre, including the development of managed care, are constraining the senior administration of health care organizations to reconsider, re-examine, and re-characterize their strategic and operational plans (Chalikias & Drosos, 2016).

Probably the best test for health care organizations working under financial imperatives forced by changing economic situations and the government is deciding how to dispense scarce resources to address the requests of the present market while initiating changes that will help position the organization for future difficulties as they emerge (Pineno, 2018). The proposed model can help with such difficulties. A crucial part of meeting this test is to understand the qualities of health care commercial centre advancement – what organize a market has come to – and using that knowledge to manufacture compelling business techniques that can be operationalized (Burns & Pauly, 2018).

Financial and non-financial modelling, particularly using models that represent the individual effect of each market stage, at that point can assist organizations with bettering assess the ramifications of strategic initiatives and go in the best direction (Pineno, 2018). Computing costs for use in a current or the proposed model can be risky. Numerous health care organizations, even those with sophisticated cost accounting systems, experience issues figuring genuine immediate and circuitous expenses for a thing or service gave to a patient (Chalikias & Drosos, 2016). Except if the expense of giving a method is determined and understood, the financial benefit of checking and managing clinical procedure gets questionable (Pineno, 2018). Time-driven activity-based costing can give an essential job in deciding the genuine immediate and indirect costs for a service provided to a patient.

2.3.3 Performance Management in an Information Technology Project

As information technology (IT) budgets have climbed exponentially, organizations have started to give a lot more noteworthy consideration to understanding and expanding business esteem from IT projects (Sirisomboonsuk, Gu, Cao, & Burns, 2018). IT pioneers are dealing with the performance of their departments and are being dealt with quantifiable indicators that are identified with business strategy. This has prompted a surge of enthusiasm for IT performance measurement in different manners (Li, 2020). Ranking directors are starting to concentrate on costs in all territories, from the data centre to the all-out expense of proprietorship at the work area level. IT pioneers are beginning to use benchmarking, both internally to analyse elements of comparable speciality units, and externally to measure IT items and services against those of different organizations and ventures.

Institutions that have re-appropriated their information systems require the capacity to find out whether predefined explicit help levels are being accomplished (Li, 2020). Service level understandings may incorporate very much characterized performance measurements (accessibility, reaction time) just as softer metrics, for example, knowledge transfer. There is likewise a huge and developing assemblage of research committed to estimating the use and diffusion of computer technologies (Sirisomboonsuk et al., 2018). While these patterns point to a more extensive acknowledgement of performance measurement and the executives within IT, none has offered to ascend to a framework for guaranteeing that IT performance is estimated and managed in a balanced, coordinated way (Gordon & Geiger, 1999).

2.3.4 Electronic Patient Records

These expansive IT industry patterns are likewise impacting healthcare IT (Roque et al., 2011). HealthCare IT faces gigantic difficulties, from guaranteeing patient safety with Y2K agreeable frameworks to acknowledging bigger dreams of mechanized, paperless electronic patient records. An electronic patient record (EPR) framework is a lot of clinical information frameworks intended to store itemized, longitudinal information about patients none needlessly at each phase of the clinical process (Gordon & Geiger, 1999). There are different and diverse difficulties in executing EPRs, including technical discussions, jargon and informing guidelines, confidentiality and security concerns, clinician use, and cultural acceptance of these frameworks (Roque et al., 2011). There is a huge group of literature dedicated explicitly to assessments of medicinal services information systems by and large, and EPRs specifically. A lot of this work is given to understanding the changes that computerization will bring to the clinical process and the variables that impact

clinician acknowledgement of technology-empowered change (Kaplan & Norton, 1996). Once more, this work gives entirely significant knowledge into explicit parts of an EPR implementation, however, does not propel a more extensive, bringing together a system for dissecting the achievement of an EPR project holistically (Gordon & Geiger, 1999).

2.3.5 Process Perspective

As IT services are the centre business of the division, the process perspective will be a significant metric (Kaplan & Norton, 1996). Cautious thought was given to picking fitting objectives and performance measures that reflect the basic internal process (Rahimi, Kavosi, Shojaei, & Kharazmi, 2017). Key goals identifying with the internal business process could be split into department performance and IT resources accessibility. Performance measurements must show and evaluate how well the division underpins the clients (Alharbi et al., 2016). Cloud computing technologies, for example, virtualization facilitates support efforts and eases the weight of maintenance cost (Alharbi et al., 2016).

In this way, the first objective is to improve the performance by decreasing maintenance time and help desk response time (Kaplan & Norton, 2001). The subsequent goal is to improve the accessibility of IT resources. Cloud computing delivered this strategic objective (Alharbi et al., 2016). The resource pool characteristic for Cloud Computing permits applications and services that run in virtual machines to be moved between servers when physical server fail is recognized (Ojah et al., 2019). Such highlights will help in diminishing system failure and spontaneous vacation for applications and the network. Another preferred position of

Cloud Computing is nimble refreshing which permits organizations to refresh IT systems without planned personal time (Alharbi et al., 2016). The division, additionally, plans to apply proactive and deterrent maintenance mechanisms.

2.3.6 Organizational Capabilities Perspective

The office administrators perceive that the Cloud Computing model will permit the office to grow new abilities and skills, focusing on clients (Kaplan & Norton, 1996). Cloud computing encourages organizations to offer new types of assistance that were not beforehand conceivable because of the greater cost of IT solutions (Alharbi et al., 2016). Along these lines, the principal objective in the authoritative capabilities perspective is to build up how Cloud Computing will permit the hospital to offer new types of assistance. A case of the new scope of services that the Cloud could offer is mobile applications (Ojah et al., 2019). Diminishing IT support tasks will permit IT, staff, to a more opportunity to develop skills and work on imaginative thoughts. Cloud computing solutions will expand the organizations' ICT capacities by permitting the office to use the IT abilities of the service merchant (Kaplan & Norton, 2001). The administrators of the department additionally trust that by executing Cloud Computing, the hospital will create positive relations with other healthcare suppliers which could ease exchanging of data (Rahimi et al., 2017). This could occur by growing progressively outside interfaces among healthcare organizations.

2.3.7 Financial Perspective

Cloud computing solutions give financial benefits to healthcare organizations by helping them to build up a productivity strategy that centres on better cost performance with more effectiveness (Kaplan & Norton, 2001). Total Cost of Ownership (TCO) for IT services in healthcare organizations is evaluated to go

somewhere around 10% to 30% by using Cloud Computing (Alharbi et al., 2016). EHD administrators expect that Cloud Computing usage will prompt diminishing IT costs and this is set as a first objective in the financial perspective. The potential cost-saving will emerge from lessening the expenses of application testing, software licenses and through better IT staff position (Ojah et al., 2019). Another key objective is to amplify and enhance IT resource usage at the hospital. Cloud computing could help in two different ways which are expanded level of virtualized servers and a large amount of staff allocated to server support. These advantages will prompt better usage of limited resources (Kaplan & Norton, 1996).

The financial perspective is significant for all shareholders and other financial patrons of an organization (Kaplan & Norton, 2001). It responds to the inquiry: "How alluring must we appear to our *shareholders and financial backers*?" This is for the most part a quantitative benchmark dependent on figures from an earlier time (Rahimi et al., 2017). What's more, it gives a dependable understanding of the operational administration and the manageability of the chosen strategy. The conveyed included value from the other three perspectives will be converted into a financial achievement (Kaplan & Norton, 1996). This is truly a quantification of the additional worth that is conveyed in the organization. After all in the balanced scorecard, when there is a higher added value, the benefits will likewise be higher (Ad-, 1999).

2.3.8 Customer Perspective

Improving customer perspective performance is one of the essential objectives for healthcare organizations (Kaplan & Norton, 2001). For KFSH, this perspective is the most significant view on the developed balanced scorecard. The main objective is to improve consumer satisfaction (Ojah et al., 2019). Cloud computing will upgrade

consumer satisfaction by improving IT department performance by diminishing the level of system failures and by lessening time taken to determine issues. Another goal is improving information access for the client. Cloud computing solutions could help the improve fulfilment by permitting new services to be conveyed, for example, self-service stations for patients (Alharbi et al., 2016). Every organization serves a particular need in the market. This is finished given an objective group, in particular its customers. Customers decide for instance the quality, value, service and the satisfactory edges on these items and additionally benefits (Kaplan & Norton, 1996). Organizations consistently attempt to meet customer desires that may change whenever (Rahimi et al., 2017). The presence of options (those of the competitor) impacts customer desire. This perspective addresses the inquiry: "How alluring would it be a good idea for us to appear to our customers?"

2.3.9 Performance measures

Kaplan and Norton (1996) recommended a BSC ought not to surpass four or five indicators for every perspective; for a sum of 20-25 indicators to be followed intently. The issue of the number of indicators incorporates the expenses or resources tied up in the measurement process, for gathering and analysing the information, announcing the indicators, and deciphering them to interpret signals from noise. Through these examples, we discovered different types of BSC (Ojah et al., 2019). A portion of the measures happened in alternate perspectives. One measure can be identified with different objectives. For instance, patient satisfaction as an overall indicator can be used in the customer perspective or the internal process perspective (Kaplan & Norton, 1996). It likewise can be in part clarified by holding up time, call focus response time, or the week after week patient complaints (Rahimi et al., 2017). The

experience of Bridgeport BSC may mirror a general picture about the indicator issue: Initially, the card cantered 12 basic achievement factors that were made by 56 metrics in FY 2000. In FY 2001, the five basic achievement factors were made and their measurements will be diminished to 35 this year (Kaplan & Norton, 1996). Further upgrades for FY 2002 incorporate lessening the number of basic achievement factors from five to four by consolidating Quality and Process Improvement".

2.4 Empirical Basis of the Study

Chan (2001) studied performance measurement and adoption of balanced scorecards. A survey of municipal governments in the USA and Canada and found that to manage financial constraints and expanding request on responsibility, government administrators have started executing present day the management tools in their organizations. The balanced scorecard, performance and strategic management system, has been embraced in for-profit organizations with progress and its application in the government sector is investigated in this study. Consequences of a study of metropolitan governments in the USA and Canada show that there is constrained use of the balanced scorecard. Most municipal governments, in any case, have developed measures to evaluate their organizations' financial, customer satisfaction, working effectiveness, advancement and change, and employee performance. Respondent administrators, as a rule, believe like the performance measures and about half reported that these measures were used to help different administration functions.

The respondent administrators likewise have a good comprehension of the balanced scorecard and the implementers are sure about their experience. Most municipal governments have measures produced for different performance perspectives, with the

best accentuation on financial performance and the least on innovation and change. Respondents perceived information on financial performance to be profoundly esteemed, well-characterized with great quality and they were used to help different administration functions. Innovation and change, as perceived by our respondents, is the performance perspective with the least estimates grew, most minimal instructive worth and quality, and is used once in a while to deal with their organizations. About portion of the respondent administrators detailed that measures on consumer satisfaction, working productivity and employee performance were used to help different administration activities, regardless of their absence of trust in the quality and informational value of these measures.

The respondent managers did not see their organization's performance measurement system to have an excess of dependence on financial performance measures. They, in any case, might want to incorporate more non-financial estimates that portray the organization's viability in accomplishing set objectives in the system. More than 40 per cent of the respondent administrators have caught wind of the balanced scorecard and they have a moderately good understanding of the tool. Among the managers whose organizations have actualized the balanced scorecard, they have a more grounded conviction that the advantages of the balanced scorecard exceed its expenses. They additionally cited "the absence of linkage of balanced scorecard to workers' rewards" as basic to their organization's fruitless execution. Lacking official sponsorship and the management being too bustling taking care of transient looming authoritative issues are different variables which hindered the adoption of the balanced scorecard and added to its ineffective usage. Hierarchical readiness for change is likewise key to actualizing the balanced scorecard effectively.

Among the 14 municipal governments that have executed the balanced scorecard, their executives announced emphatically about their experience and felt that the balanced scorecard could be a valuable administration device for their organizations. Notwithstanding their constrained understanding, performance measures on each of the five perspectives have been developed. Along these lines, for administrators who need to execute the balanced scorecard in their organizations, they should set their needs and not be derailed other looming authoritative issues. They need to give the authority and support while simultaneously looking for interest and buy-in of the executives and representatives. Municipal administrators ought to consider the performance measures announced in Table IV if they are keen on executing the balanced scorecard in their organizations.

Chang (2007) investigated the NHS performance assessment framework as a balanced scorecard approach Limitations and implications and found that the use of the balanced scorecard has been liable to expanding scrutiny and criticism in academic literature. The reason for this paper is to investigate the restrictions of, and suggestions for, the Performance Assessment Framework (PAF) as a balanced scorecard approach in the NHS. In spite of the fact that Kaplan and Norton proposed that the balanced scorecard can be adjusted for strategic performance management purposes in the public sector, this research means to contend that such cases neglect to give adequate load to the political setting in which a public sector organization works. Semi- structured interviews were used to research the perceptions about the PAF of local administrators and whether and how they fused central government's performance focuses into their local tasks within two health specialists. Besides, so as to look at these two health specialists' performance measurement rehearses, records

identifying with their internal performance reports and local conveyance plans were examined. Empirical findings drawn from local health specialists show that the use of the PAF was essentially for authenticity looking for purposes instead of for rational performance improvement.

For central government, the PAF was used to make the performance of the NHS unmistakable to the general public with the goal that the general public would get the sign that central government has endeavoured to convey government orders. For local health authority directors, so as to look for authenticity from central government, imposed performance indicators were consolidated into their local performance measurement practice. In any case, the use of the PAF was representative and formal and had little effect on improving performance esteemed by local supervisors in NHS. This study concurs with institutional theorists' contention that the use of performance measurement systems should consider legislative issues and power looked by an organization. In the NHS, performance measurement may be used by local NHS organizations principally as a stately methods for exhibiting their emblematic duty for authenticity seeking for purposes.

Chen (2006) studied using the balanced scorecard to measure Chinese and Japanese hospital performance. The purpose of the paper is to affirm the plausibility and benefit of using the balanced scorecard (BSC) to measure performance in two hospitals in various nations. One hospital from China and another from Japan were picked and key indicators were chosen by the BSC framework. A relative hospital performance measurement model was set up using the BSC framework to exhaustively think about hospital performance in two nations. Hospital performance correlations between nations using the BSC rely upon the determination of possible and suitable key

performance indicators, which is every so often constrained by information collection issues. The primary use of the BSC to look at hospital performance among China and Japan shows benefits that proposes performance upgrades in singular hospitals as well as uncovers successful health factors permitting usage of legitimate national health policies.

The BSC framework not just energizes hospital performance indicators across various nations to be extended yet additionally encourages us to thoroughly think about and analyze hospital performance. Using BSC to think about two Chinese and Japanese hospitals raised assistance issues while recognizing improvement opportunities. Further use of the BSC to measure hospital performance in various nations may uncover the health factors that most add to good performance while empowering advancement and usage of important national health policies. The BSC was seen as compelling for underlining existing issues and recognizing opportunities for upgrades. The BSC likewise uncovered the hospitals' commitment to performance improvement of every nation's total health system.

Gumbus (2005) investigated an introducing the Balanced Scorecard: Creating Metrics to Measure Performance. This experiential activity presents the idea of the Balanced Scorecard (BSC) and applies it in a college setting. The Balanced Scorecard was created 12 years prior and has developed in fame and is used by over half of the Fortune 500 organizations as a performance measurement and key administration tool. The BSC extends the customary financial measures into three different measurements to catch a balanced way to deal with measure performance in an organization. These extra measurements are as per the following: Customer Focus, Competence/Employee Learning and Growth, and Operational Efficiency. The

activity uses a similarity of a race vehicle driver who depends on one part of estimation to measure the race as opposed to depending on various elements of performance.

Alharbi et al. (2016) studied strategic value of cloud computing in healthcare organizations using the balanced scorecard approach: a case study from a Saudi hospital and found that the advancement of Cloud Computing in the course of recent years can possibly give numerous advantages to healthcare organizations. Be that as it may, healthcare organizations despite everything need to find the strategic values of embracing such a technology model. The paper talks about the strategic values of executing Cloud Computing solutions in a Saudi hospital dependent on the Balanced Scorecard Approach. The paper additionally presents the strategic map and the KPIs that were used by the hospital. This paper examined a real application of BSC at electronic health department at a Saudi hospital. The study has concentrated on the execution of Cloud Computing from the strategic view by talking about four perspectives which were internal process perspective, customer perspective, financial perspective and organizational capability perspective. The outcome of the paper incorporated the strategy maps and the KPIs that were used by the EHD department.

The outcome additionally featured that Private Cloud computing will give strategic values to all perspective with some elevated requirements for the financial perspective. The executed BSC has additionally been talked about by the analysts with the EHD division to make further upgrades, for example, the development toward as cost-driven model. This paper is one of only a handful not many investigations that talked about BSC execution in Saudi Arabia explicitly and Cloud

Computing vital qualities when all is said and done. The consequences of this paper could go about as rules for comparable projects while taking over the uniqueness of every organization. This paper concentrated on a specific division as opposed to the general organization which is typically the situation with BSC implementation (Alharbi et al., 2016). Future work is to finish the survey process of the actualized BSC and to introduce evaluation process for Cloud Computing Decision-Making in the hospital to help the leaders in this movement. The outcome of this paper (KPIs, strategy map.) could go about as rules for comparable tasks and comparative organizations, while contemplating the uniqueness of every organization.

Bisbe and Barrube (2012) studied the balanced scorecard as a management tool for assessing and monitoring strategy implementation in health care organizations. Both earlier literature and revealed administrative practices have claimed that the Balanced Scorecard is a management device that can push organizations to adequately actualize systems. Right now, analyze a portion of the commitments, quandaries, and confinements of Balanced Scorecards in health care organizations. In the first place, we depict the development of Balanced Scorecards from multidimensional performance measurement frameworks to causal portrayals of defined strategies, and investigate the pertinence of Balanced Scorecards in health care settings. Next, we talk about a few issues under discussion with respect to Balanced Scorecard selection in health care organizations. We recognize issues identified with the plan of Balanced Scorecards and those identified with the use of these tools. We presume that the Balanced Scorecard can possibly add to the usage of strategies through the deliberately arranged performance measurement frameworks inserted inside it. Notwithstanding, compelling appropriation requires the adjustment of the conventional instrument to the particular real factors of health care organizations.

Gurd (2008) investigated lives in the balance: an analysis of the balanced scorecard (BSC) in healthcare organizations and found that the motivation behind this paper is to show how the balanced scorecard (BSC) has been a conspicuous development in strategic performance measurement frameworks. The health care sector has begun to receive this approach. There are many contextual analyses of BSC applications and this paper surveys this literature to examine the use of the BSC over this part. Specifically, it is contended that the present applications do not show the health of patients as being central in the development of the BSC; the equalization is tilted towards the financial not the health results. BSCs are still in a developmental stage in health care settings and technique mapping is not yet normal. The paper has drawn together and examined the published instances of BSC in health care.

It is conceivable that some brilliant instances of BSC in health care are not yet distributed or have been missed by this exploration approach. This study was restricted by using data from papers which here and there were constrained. The reflections on the present degree of training of the BSC are valuable for the two scholastics and professionals. The paper has drawn together and analyzed the published instances of BSC in health care. It is conceivable that some superb instances of BSC in health care are not yet published or have been missed by our research approach. Our investigation was restricted by using data from papers which here and there were extremely constrained. A future research study could examine the qualities of fruitless executions – insufficient and fleeting. We recommend that a progressively extensive view would originate from a cross-national review of best practice use of the BSC in healthcare; a fascinating project for future research.

Despite the fact that this research has confinements, our discoveries give some significant experiences into the present condition of the use of BSC in healthcare. The models show the diversity of BSCs in health care organizations. Not many organizations are treating Kaplan and Norton or different equations as a waterway coat. This is an empowering sign for the division which has taken up the fundamental instrument of the BSC and applied it in rich and differing ways. The absence of consistency does not empower benchmarking; however in the early use of the BSC there has been some rich experimentation which may prompt progressively reliable approaches in the more extended term. If that the BSC is to be a key implementation tool, as Kaplan and Norton (2001) have contended, at that point there will consistently be a few contrasts because of the distinctive strategic orientations of health care organizations.

We urge health care organizations to work in groups of like organizations to create scorecards which are both practically identical however meet their own vital needs. Outside of the health sector, there has been a slow development of the BSC. While scholastics and specialists guarantee we are in the third era; there might be more advancement to proceed. Be that as it may, whatever the quantity of ages ahead, they are probably going to be developed based on a single (and unique) set of macro standards created by Kaplan and Norton. In health care practices, the second era BSC of a key management tool has all the earmarks of being the standard. Even though the Lawrie and Cobbold two perspectives' BSC approach has been presented and applied, Kaplan and Norton's four perspectives despite everything has a significant effect on the practices in healthcare organizations. We come back to our central conflict of the lives of healthcare beneficiaries.

A core standard of BSC remains balance. We can predict that the future BSC will not have a fixed structure other than balance. During the time spent applying BSC, organizations look for parity and amicability between long haul and present moment, financial and non-financial, individual and organizational, inward and outside components, cause-and impacts, and productivity and decency, especially in the healthcare industry. Our anxiety is that the necessities of patients have not arrived at the centre of the BSC in healthcare. Lives are hard to adjust and most nations are attempting to contain health costs. We do not belittle the significance of different points of view however we contend that, particularly for not-for-benefit and government suppliers, quiet needs should be increasingly integral to the BSC. A future research venture could examine the qualities of fruitless implementations ineffectual and fleeting. It is recommended that a progressively far-reaching perspective would originate from a cross-national study of best practice use of the BSC in health care; an intriguing task for future research. In evaluating the past applications, the paper shows a route forward for future improvements of the scorecard in health settings.

Chiasson et al. (2007) studied expanding multi-disciplinary approaches to healthcare information technologies found that the powerful utilization of information technology (IT) is a critical segment for the conveyance of compelling services in health care. Flow ways to deal with medical informatics (MI) study have altogether added to its accomplishment use in health care however significant difficulties stay to be tended to. We accept that growing the multi-disciplinary reason for MI study is imperative to meeting these research challenges. Right now, we outline theories and techniques used in information systems (IS) research about that we accept can advise

our comprehension regarding health care IT applications and results. To do as such, we examine some broad contrasts in the concentration and strategies for MI and IS research to distinguish wide chances.

Health care is one of the most important social and financial parts of present-day society, and the viable use of IT in the health care industry is essential to its prosperity. In any case, regardless of the achievements of MI research, various difficulties in developing, executing, and assessing health care IT remain. Various controls offer various bits of knowledge and points of view concerning these difficulties. Right now, contend that IS research could add to the further improvement of MI knowledge by bringing an increased mindfulness and research regard for social and hierarchical features of health information technology. To delineate this, we inspected considers that the authors have occupied with, in which speculations and strategies used in IS were applied to healthcare IT themes.

These incorporate technology use intervention, research of collaborative work, genre theory, interpretive techniques, activity research, and modelling. Kaplan and Shaw (2004) contend that clinical informatics has as of now profited by proceeded with endeavours to unite understanding developed in different disciplines. We go along with them and other clinical informaticians in requiring a more extensive scope of speculations and techniques to improve clinical informatics research. In making this contention, we plan to represent how various fields can supplement and gain from one another. In doing as such, we have focused on the use of IS knowledge in health care IT research. In any case, we would bring up that knowledge and theory developed within MI may likewise have a more extensive, cross-disciplinary role (Chiasson et al., 2007). Even though tending to this intriguing recommendation is past the extent of

the scope of the current paper, we trust that others will, later on, investigate the opportunities for the interdisciplinary exchange of MI research encounters to different disciplines, including information systems.

We at that point survey conceptual and methodological strategies in IS that have been applied in health care IT research. These include technology use intercession, collective work, genre theory, interpretive research, activity research, and modelling. Instances of these theories and strategies in healthcare are research are outlined. Design, implementation and scaling up of the balanced scorecard for hospitals in Lebanon: Policy coherence and application lessons for low and middle-income countries by (El-jardali et al., 2020). This paper depicts the advancement and usage of the main national hospital performance indicators in Lebanon including its institutionalization within the existing policy framework and the commencement of independent governance structure for maintainability. Guided by the Ontario Acute Care Balanced Scorecard system, a stage astute methodology was used.

Core values were non-corrective announcing, anonymity, intentional support, stakeholder involvement, agreement and feasibility. Changed Delphi strategy was used, preparation appraisal overviews in 52 hospitals were directed, and pilot testing and assessment were finished in 14 hospitals. Initial balanced set of 21 indicators were chosen. Discoveries demonstrated wide varieties in indicators' estimation in hospitals including formulas and instruments. Boundaries to estimation included the absence of value culture, doctor obstruction and resources. A progressive implementation technique was developed and chosen indicators were partitioned into two levels. Most piloted indicators end up being substantial, practical and reliable.

The activity was connected to the national hospital accreditation framework bringing about a balanced set of 40 indicators. An autonomous, not-for-benefit, arm's-length association was built up. The advancement and usage of national institutionalized performance indicators through the BSC approach is a long and winding street which some of the time takes longer than planned. Achievement relies upon guides and effective observing and assessment.

The initiative has begun a significant process of changing the way of life in hospitals by invigorating quality improvement through measurement and benchmarking. Throughout the following not many years, inquire about research studies to be directed to inspect and assess the advancement and the effect of this initiative in bringing tangible and enduring quality enhancements to patient care in Lebanon. Further research is additionally expected to look at system-wide application and versatility of the BSC in different LMICs and to examine the adequacy of different motivators and approaches in executing quality initiatives in various settings. Health care systems in a few nations in the EMR are entering another period in health care quality improvement and patient safety. Being the first of its sort in Lebanon, the key conversation focuses brought up in this paper can give important lessons to different nations in the EMR which are keen on or during the time spent development and execution of BSCs. This is among the primary efforts made in the East Mediterranean Region to adjust the BSC approach and interpret the experience of its development to addresses local needs and relevant reality.

Grigoroudis et al. (2012) investigated strategic performance measurement in a healthcare organization: A multiple criteria approach based on balanced scorecard and found that the Balanced Scorecard (BSC) philosophy centres on major basic issues of

current business organizations: the effective estimation of corporate performance and the assessment of the effective usage of corporate strategy. Despite the expanded reception of the BSC methodology by various business organizations during the most recent decade, limited case studies concern non-profit organizations (for example public sector, educational institutions, healthcare organizations, and so on.). The fundamental point of this study is to introduce the improvement of a performance measurement system for public health care organizations, with regards to the BSC technique. The proposed approach considers the recognized attributes of the previously mentioned part (for example absence of rivalry, the social character of organizations, and so forth.).

The proposed measurement system contains the most significant financial performance indicators, just as non-financial performance indicators that can look at the nature of the provided services, the fulfilment of internal and external clients, the personal development system of the organization and the capacity of the organization to adjust and change. These indicators assume the role of Key Performance Indicators (KPIs), with regards to the BSC system. The introduced analysis depends on an MCDA approach, where the UTASTAR technique is used to total the marginal performance of KPIs. This methodology can consider the inclinations of the administration of the organization in regards to the accomplishment of the characterized strategic objectives. The principal consequences of the proposed approach allude to the evaluation of the general scores for every last one of the fundamental components of the BSC technique (for example financial, customer, internal business process, and innovation-learning). These outcomes can assist the organization with evaluating and revise its strategy, and for the most part to embrace present-day management approaches inconsistent practice.

Hoque (2013) investigated 20 years of studies on the balanced scorecard: Trends, accomplishments, gaps and opportunities for future research. Robert Kaplan and David Norton presented the Balanced Scorecard in their 1992 Harvard Business Review article. 2012 marks 20 years since that article. This commemoration has roused the researcher to review the condition of research on the balanced scorecard, to feature gaps in that study and to plot a few thoughts for further research. To this end, I reviewed 114 articles published in 25 accounting journals and 67 articles in business and management journals in the period 1992–2011. The discoveries of this literature survey are introduced in three sections. Initially, the reviewed articles are ordered by topics, research settings, theories, research method, and primary data analysis techniques. Second, the commitments of research to the field and the lessons gained from these studies are talked about. Third, knowledge gaps in existing balanced scorecard research are distinguished, prompting thought of a few thoughts for future research. The last area offers my last comments.

The point of this article has been to investigate the status of research on the balanced scorecard to recognize gaps and to portray thoughts for future research. Checking on 114 articles published in 25 accounting journals and 67 articles in business and management journals over a 20-year time frame, this article gives a review of the balanced scorecard performance and use, theoretical orientations, and techniques for analysis and investigation. From a positive position, numerous quantitative studies displayed a careful distance research strategy: select a theory, develop suggestions or theories, measurably categorize key factors, search for observations and endeavour to recover importance by ex post facto translations of the trial of significance. Research right now depended on either reviews or behavioural experiments. A considerable

extent of articles published in leading accounting journals falls within this broad category. A few studies additionally used blended techniques for investigation (data triangulation) joining subjective and quantitative strategies.

Scientists considered this triangulation strategy as a system for improving "the exactness of their decisions by gathering various types of information bearing on a similar marvel" (Jick, 1979, p.602). It is intriguing to investigate whether discoveries from contemplates using triangulation are reliable with results from various research strategies. Jick (1979, p.608) commented in this context, perspectives are probably going to create a few components which do not fit a theory or model. From this review of studies in the course of recent years, we discover that for certain organizations it is hard to coordinate the balanced scorecard with other administrative control devices, for example, planning and that organizations will in general use such a large number of measures in a balanced scorecard. Thus, organizations may frequently wind up with estimating inappropriate things. The survey approach used right now not without constraints. From the survey of chosen articles, it was impractical to discover completely whether and how organizations used the balanced scorecard and what they thought of it. Future studies may wish to address these issues.

Further, there is a deficiency of positive stories in the research literature about the use of the balanced scorecard in organizations. Future studies could add to the literature by concentrating on systems that had worked or were effective, with the goal that they could be analyzed and introduced to audiences who should give them a shot (for insights regarding a thankful enquiry, see Reed, 2007). Further, we could gain more

from studies contrasting achievement and failure tales about the execution of the balanced scorecard. It ought to be noticed that this survey has not occupied with any discussion about the present list of organizations in the worldwide hall of fame that have bombed in the ongoing economic downturn. A future review could address this gap. One should remember, notwithstanding, that it is substantially harder to gain data access to instances of failure. Given the legitimacy issue of subject measures of performance, future studies should, at every possible opportunity, join both subjective and objective measures of performance when researching the performance impact of the balanced scorecard.

As Wallet al. (2004, p.116) comment, “Given each sort of measure will contain its own blunder, progressively dependable appraisals of performance might be acquired by joining them. Simultaneously, proportional outcomes from the two sorts of the measure would add weight to any substantive discoveries, and differential discoveries modify agents to fundamental issues”. The balanced scorecard was initially planned by Kaplan and Norton in 1992 for estimating performance utilizing a blend of financial and non-financial measures. This original idea has all the more as of late developed into a sorting out structure for strategic planning, execution and management system. Measures can be connected to vision and technique, as showed in existing studies on the balanced scorecard, and they can likewise be connected, based on a progression of cause-and-effect connections.

The balanced scorecard idea accentuates the linkage of estimation to a strategy map; this more tightly association between the measurement framework and the system map hoists the role of non-financial measures in methodology usage and technique

assessment (Kaplan and Norton, 2006a, 2006b). Until another improved development device shows up, the balanced scorecard will keep on giving organizations a significant choice as a strategy map, an empowering agent of policy usage, and hierarchical control and responsibility apparatus. Researchers will keep on investigating different issues around the balanced scorecard using a scope of theoretical and methodological perspectives. This current article's survey of the improvement and status of the balanced scorecard literature in the course of the most recent 20 years will help scholastic researchers in developing research thoughts, in picking applicable theories and better practice research techniques, and in proving their discoveries to upgrade our insight into regular balanced scorecard practice.

Trotta et al. (2013) studied applying the Balanced Scorecard approach in teaching hospitals: a literature review and conceptual framework. Teaching hospitals (THs) all the while serve three distinct roles: offering clinical treatment, teaching future specialists and advancing research. The worldwide literature perceives such organizations as peaks of greatness and features their economic function in the health system. Furthermore, the literature portrays the dire need to deal with unpredictable elements and inefficiency issues that undermine the endurance of teaching hospitals around the world. Right now, traditional performance measurement systems that focus just on accounting and financial measures have all the earmarks of being lacking. Given that THs are profoundly explicit and unpredictable, a multidimensional system of performance estimation, for example, the Balanced Scorecard (BSC), might be increasingly suitable on account of the huge number of stakeholders, every one of whom looks for a particular sort of responsibility.

The point of the paper was twofold: (I) to survey the literature on the BSC and its applications in teaching hospitals and (ii) to propose a scorecard structure that is appropriate for evaluating the performance of THs and filling in as a guide for researchers and experts. Moreover, this study will add to the progressing banter on performance evaluation frameworks by recommending a changed BSC system and proposing explicit performance indicators for THs. Our system, which was created at the corporate level, can fill in as an establishment for the individuals who need to apply the BSC to THs. The proposed system is the consequence of the primary period of our research and will be liable to promote modifications and integrations.

In like manner, a few constraints ought to be tended to. To start with, the model must be shared and examined regarding the potential applications within every particular organization. These conversations ought to include the two directors and key partners. This progression of making accord is critical to the consistent improvement of the BSC. The falling procedure is likewise significant: the BSC could be developed at various degrees of an organization and applied to at least one working units. The organizational territories where the model will be applied ought to be characterized appropriately by adjusting the number and kinds of perspectives, KPAs and KPIs to the particular key objectives. Also, the capacity to actualize a BSC must be upheld by the creation or advancement of a data warehouse or hospital information system that consolidates clinical, operational and financial information in decision-making processes. The BSC can turn into a perspective for key administrative process, for example, the detailing and communication of techniques, the establishment of objectives, the portion of accessible assets, the revealing and use of results, and the making of motivating forces and prize plans. Be that as it may, it is likewise

imperative to think about that THs, particularly those at the worldwide level, can contrast extraordinarily as far as staff, organization and size, and these variables are urgent in decision-making processes. Future research should concentrate on pilot case study surveys to confirm and test the reliability of the framework and feature its conceivable quality and shortcoming.

Walker (2015) studied improving hospital performance and productivity with the balanced scorecard. The motivation behind this paper is to give a review of the value of the Balanced Scorecard in improving a hospital's management and conveyance of health care at diminished expense without loss of value. This paper portrays a way to deal with planning and executing a balanced scorecard framework for measuring performance and efficiency in a hospital setting. Explicit proportions of performance criteria are recommended just as interpreted. Rules for estimating profitability are likewise proposed and interpreted. How these measures might be used by a hospital to improve its organization of health care while lessening costs and keeping up quality are depicted. This paper is a valuable resource for hospital directors hoping to improve their performance and efficiency. A balanced scorecard is an administrative tool that is generally used in the manufacturing industry.

Worry by hospital management for performance and productivity measurement has developed about reductions in government financing for health services, pressure from organizations and insurance agencies, and public concerns about the increasing expenses of health care. These variables have created uplifted rivalry in the health services industry. Numerous hospitals are reacting by receiving the performance/efficiency measurement techniques all the more regularly found in

manufacturing organizations, for example, the balanced scorecard. Even though scorecards may show up as a trend in the healthcare field, they have in reality earned a lasting spot in strategic planning (Pieper 2005). A performance/productivity measurement system ought to follow a couple of significant standards and assess the one of a kind attributes of health care. Use of these measurement techniques alongside some innovativeness, initiative, and participation among hospital workers, clients, and purchasers can improve the administration and delivery of health care at the decreased expense and without loss of value. This paper satisfies a need by healthcare suppliers to get information on implementing a balanced scorecard framework that explicitly addresses issues unique to clinics. This paper likewise addresses how to quantify efficiency within a balanced scorecard framework.

Lin et al. (2013) investigated the integration hierarchical balanced scorecard with fuzzy linguistic for evaluating operating room performance in hospitals by (Lin et al., 2013). Health care organizations are working in a perplexing domain. The serious and dynamic health care sector has prodded hospitals into conveying more prominent adaptability and quality of service. A productive performance evaluation system is basic for controlling, checking and improving help quality in health care organizations. The performance evaluation of the operating room (OR) is a helpful work for directors to control the operational process of the OR group to advance the performance. This paper explores the use of an administrative tool: balanced scorecard (BSC), which encourages directors to meet various strategic objectives, and fluffy etymological technique for assessing OR performance.

BSC is a strategic planning and management system that is used broadly in business and industry, government and non-profit organizations. Initial, a model is produced for estimating the adequate performance of OR dependent on the interaction financial, customers, internal business process and learning and growth perspective. From that point forward, BSC structure coordinated with fuzzy linguistic is proposed for estimating and improving the service. The point of this study was to fabricate a performance evaluation system for OR and use a fuzzy linguistic to change over the subjective cognition of managers into a data element and affirmation of progress. This exploration results can assist the organization with evaluating and update its system and for the most part, to embrace present-day management approaches inconsistent practice. The balanced scorecard is an instrument for interpreting strategy into actions through different sets of performance measurement indicators. Various studies and literary works have a contrived methodology for assessing performance measurements.

In any case, scarcely any such research use fuzzy linguistic to change over the subjective cognition into an information element which is as yet problematic for health care management. Along these lines, this study used BSC theory to assemble a performance indicators framework relying upon expert accord sentiments from expert working in hospital and scholastics. Besides, this study likewise proposed fuzzy linguistic coordinating with BSC to assess OR performance. A significant preferred position of the fuzzy linguistic technique is that the performance indicators can be unmistakably distinguished and communicated quantitatively. Hospital performance evaluation is an extremely troublesome and complex work, it requires more non-financial information. For this point, another performance assessment technique has been developed right now.

Contrasted and the customary performance evaluation, the proposed hierarchical balanced scorecard with Fuzzy linguistic has the accompanying favourable circumstances: The performance indicators framework and performance esteems are proposed by hospital directors, clinical staff and scholarly with a complete view and defeats the decision-makers' subjective consciousness. The hierarchical BSC performance evaluation system can build up a communication framework that overcomes any issues between objectives set up by high-level supervisors and the staff whose performances is eventually answerable for accomplishing authoritative objectives. The performance indicators values and the weight of significance are evaluated in a fuzzy linguistic instead of in exact numerical values. This empowers the specialists to communicate their decisions all the more everything being equal and makes the assessment simpler to be done. The proposed strategy can be used by public sectors for self-assessment which assessment information is inaccessible or problematic, as it does not drive accuracy. For the future studies, following topics can be taken care of: (I) the performance value and weight of significance can be gotten through including more members from various expertise knowledge; (ii) to sum up the outcomes to various hospitals and other public sectors.

Rabbani et al. (2010) designed a balanced scorecard for a tertiary care hospital in Pakistan: a modified Delphi group exercise. Balanced Scorecards (BSC) are being executed in high-income health settings connecting hierarchical techniques with performance information. At this private college hospital in Pakistan, an intricate information system exists. This study planned to use accessible information for better performance management. Applying the altered Delphi strategy a specialist board of clinicians and hospital supervisors reduced a long list of indicators to a manageable

size. Indicators from existing archives were assessed for their significance, scientific soundness, and propriety to the hospital's strategic plan, plausibility and modifiability.

Board individuals exclusively appraised every indicator on a size of 1–9 for the above criteria. Middle scores were relegated. Of an underlying set of 50 indicators, 20 were at last chosen to be relegated to the four BSC quadrants. These were financial (n ¼ 4), client or patient (n ¼ 4), internal business or quality of care (n ¼ 7) and development/learning or employee perspectives (n ¼ 5). A requirement for stringent definitions, universal benchmarking and institutionalized measurement strategies was recognized. BSC urges individual clinicians and managers to mutually progress in the direction of improving performance. This scorecard is currently fit to be executed by this hospital as a performance management tool for observing indicators, tending to estimation issues and empowering comparisons with medical clinics in different settings.

Rabbani et al. (2011) investigated understanding the context of Balanced Scorecard Implementation: a hospital-based case study in Pakistan. As a response to a changing working condition, healthcare managers are actualizing present-day management tools in their organizations. The balanced scorecard (BSC) is viewed as a feasible tool in high-income nations to improve hospital performance. The BSC has not been applied to hospital settings in low-income nations nor has the setting for implementation been analyzed. This study investigated a logical perspective comparable to BSC usage in a Pakistani clinic. Four clinical units of this hospital were engaged with the BSC execution dependent on their readiness to take an interest.

Usage included the sharpening of units towards the BSC, developing forte explicit BSCs and announcing of performance based on the BSC during managerial meetings. Pettigrew and Whipp's unique circumstance (why), process (how) and content (what) system of vital change was used to manage data collection and analysis.

Data collection techniques included quantitative apparatuses (an approved culture evaluation questionnaire) and qualitative methodologies including key witness meetings and member observation. Technique triangulation gave normal and differentiating results between the four units. A participatory culture, steady authority, financial and non-financial motivations, the introduction of clear directions by incorporating support for the BSC in strategies, resources, and routine exercises developed as alluring characteristics for BSC usage. The two units that lingered behind were increasingly engaged with direct inpatient care and conveyed a significant clinical remaining burden. Job explanation and accord about the reason and advantages of the BSC were noted as key systems for defeating usage challenges in two clinical units that were generally ahead in BSC execution. It was noticed that, as opposed to looking to supplant existing information systems, activities, for example, the BSC could be promptly embraced on the off chance that they are based on existing infrastructures and data networks.

A participatory culture, strong administration, financial/non-financial incentives, and backing for the BSC in strategies, resources, and routine exercises showed up as alluring characteristics. Role clarification and accord about the reason and advantages of the BSC were noted as key methodologies for conquering boundaries identified with BSC implementation. Comparable drivers and blockers of performance

management implementation have been accounted for from a combination of five case studies in the United Kingdom (Bititci, Mendibil, Nudurupati, Turner & Garengo, 2004). Also, it was understood that as opposed to looking to supplant existing information systems, activities, for example, the BSC could be promptly received on the off chance that they are based on existing infrastructures and data networks.

Different studies Variable degrees of the BSC usage were seen in this study. Those aiming to apply the BSC in other hospital settings need to guarantee a participatory culture, clear institutional command, suitable leadership help, appropriate reward and acknowledgement framework, and refinement to BSC benefits. Verzola et al. (2009) studied a multidimensional evaluation of performance: experimental application of the balanced scorecard in Ferrara university hospital. One of the most popular performance planning and assessment methods using both fiscal and non-financial information is the Balanced Scorecard (BSC). This is a method for legitimizing the worldwide activity of a business in the endeavour to create value and to make an interpretation of the organization vision into a lot of strategic targets and quantifiable procedures. The point of this study was to execute and assess the use of BSC in two branches of the St. Anna University Hospital, Ferrara: the Analysis Laboratory and Digestive Endoscopy working units (OU).

With the joint effort of the health workers included, an exact methodological program was sought after Definition of the strategic map from 4 perspectives, as per Kaplan and Norton, Definition of the Key Performance Areas (KPA), or macro goals, Identification of the reason impact connections between KPAs, Identification of the

sub-goals of each KPA, Definition of the Key Performance Indicators (KPI), Definition of the weight/significance of every target in the worldwide assessment. The information accumulated allowed the meaning of macro and sub-goals for every perspective, just as deciding the significant indicators, models, loads, frequency of detection and methods for securing. Strategic maps demonstrating the reason/impact connections in each OU were made, as were 'assessment panels, which portray the worldwide performance of every department. For every perspective, the key information was outlined in one table. Assessment of each perspective yielded a positive outcome for most of the goals, and the worldwide outcome (counting each of the 4 perspectives) was seen as acceptable. The Balanced Scorecard was actualized in the previously mentioned OUs of St.

Anna University Hospital, Ferrara, after the health workers themselves understood the requirement for change. In our study, the representatives were satisfied to be assessed, for the financial results, yet in addition to the fulfilment of improving internal strategy, relationships with the network and their own development/learning. BSC is a perfect purpose of contact between the financial and clinical components of management. Be that as it may, challenges in its application were confronted, among these, in any event in the underlying stage, the absence of information systems ready to drive it, and the multifaceted nature of the research for explicit indicators should have been survived. The time factor (All things considered, at any rate, two years are required) and the accessibility of innovative resources were additionally restricting variables. The quick dispersion of BSC among the principal international profit and non-profit organizations is a demonstration of its incredible potential. This task could be viewed as a preliminary stage in the strategical study of a resulting business plan.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of the study was to examine the knowledge of health professionals and the barriers encountered with the use of Balanced Scorecard for hospital management. This chapter presented the method used in gathering information for the study, which includes, type of research, population, sample and sampling technique, data collection, source of data collection, an instrument for data collection, procedure for data collection and method of data analysis.

3.2 Research Design

The researcher in the research study adopted an explanatory research design because not much is known about the study. Thus, Zion Praise hospital at Kona in the Sekyere South District of the Ashanti Region, Ghana uses hospital administration management system in managing the hospital whiles Qilu Hospital of Shandong University in Shandong Province in the Republic of China uses Balanced Scorecard for hospital management. The study further used a quantitative research approach for the analysis of the results (Gao & Gurd, 2015). Explaining whether the use of Balanced Scorecard for hospital management is affected by barriers and knowledge of hospitals for Qilu Hospital of Shandong University in Shandong Province in the Republic of China as opposed to Zion Praise hospital at Kona in the Sekyere South District of the Ashanti Region, Ghana. The quantitative section was carried out not just to collect more comprehensive information but also to ensure the validity of the results (Rabbani et al., 2011). Gelsne (2011) stated that the collection of multiple data approach leads to the validity of the data.

3.3 Research Setting

The study was done at Qilu Hospital of Shandong University in Shandong Province in the Republic of China and Zion Praise Hospital at Kona in the Sekyere South District of the Ashanti Region, Ghana. These hospitals were purposely selected based on their use of hospital management and their availability to participate in the study (Idayu, Bakar, Noordin, & Razali, 2019). The questionnaire was administered only to the Qilu Hospital of Shandong University in Shandong Province in the Republic of China as it sought to examine the knowledge of health professionals and barriers encountered with the use of Balanced Scorecard for hospital management. Data in the form of Google forms were sent to the email of Qilu Hospital of Shandong University in Shandong Province in the Republic of China which was distributed to health workers through WeChat.

3.3.1 Profile of Research Site

Qilu Hospital is healthcare that was established in 1890 CE with an ID of the grid.452402.5 (Science, 2018). Qilu Hospital is in China with a GeoNames Code of CN and GeoNames ID of 1814991, admin 1 Region of Shandong with a GeoNames Code of CN.25 and GeoNames ID of 1796328, and in a city of Jinan with GeoNames ID of 1805753 (Science, 2018). Zion Praise Hospital is a hospital in Ghana, a region of Ashanti and the district of Sekyere South in a town of Kona (Kobi, 2018).

3.4 Population

The population for the study comprised all Nurses, Doctors, Administrators and other staff of Qilu Hospital of Shandong University in Shandong Province in the Republic of China and Zion praise hospital at Kona in the Sekyere South District of Ashanti

Region, Ghana. The total number of population was three thousand five hundred and sixty (3,560) Nurses, Doctors, Administrators and other staff of Qilu Hospital of Shandong University in Shandong Province in the Republic of China. Out of the population, one thousand nine hundred and thirty (1,930) were females and one thousand six hundred and thirty (1,630) were males.

3.5 Sample and Sampling Technique

The sample size for the study was three hundred and sixty (360). The researcher used stratified sampling to select the participants from the population for the study. Stratified sampling precisely mirrors the population being examined because the researcher delineated the whole population (Murphy, 2020). The researcher used stratified sampling because it guarantees every subgroup inside the population gets appropriate portrayal within the sample (Murphy, 2020). As a result, stratified sampling gives better inclusion of the population since the researcher have authority over the subgroups to guarantee every one of them are represented in the sampling. The researcher selected the sample size by calculating a fraction of males over the population (1630/3,560) of the sample for men which was one hundred and sixty-five (165) and another fraction of females over the population (1,930/3560) of the sample for females which were one hundred and ninety-five (195). A stratified sample can give more prominent accuracy so it frequently requires a smaller sample, which saves money (Trek, 2020). A stratified sample can make preparations for an "unrepresentative" sample (e.g., an all-male sample from a mixed-gender population). With stratified sampling, the researcher can guarantee that adequate sample focuses will be gotten to help a separate analysis of any subgroup (Trek, 2020).

3.6 Research Instrument

The study used questionnaire in gathering the data for studying the issue under investigation. Kerlinger (1993) observed that the questionnaire is widely used for collecting data in quantitative research because it is developed to answer questions. According to Cresswell (1998) as cited in (Ngitoria, 2014) questionnaire consists of a set of predetermined questions that may be structured, unstructured or semi-structured. It is very effective for securing factual information about practices and conditions of which the respondents are presumed to know. It is also used for inquiring into the opinions and attitudes of subjects. The researcher used questionnaire as an instrument because it enabled me to unearth relevant information from the target population to better understand the context of the study and also, data collection through these instruments was easily analysed.

The questionnaire for the study was a close-ended item. The items were structured systematically and coherently. Simple sentences were used for the wording such that respondents could understand the instructions. Five-point Likert-type scales were given ranging from '1' to '5'- from 'strongly disagree' to 'strongly agree'. The questionnaire exhausted every possible variable to be measured based on all the literature that had been reviewed (Chang, 2007) in such a way that the research work was carried out within the specified timeframe. The data collection was done through Google forms. Also, the respondents had sufficient time to consider the questions before filling out their responses.

3.7 Reliability and Validity of the Instrument

Reliability is a measure of the degree to which research instruments yield consistent results after repeated trial (Ngitoria, 2014). Validity refers to the extent to which a test measures what we actually want to measure (Ngitoria, 2014). The questionnaire was reliable to the extent that, it was reviewed by the researchers' supervisor. All the contribution and assessment of the researchers' supervisor was taking into consideration which was effected by the researcher. The researcher sent the questionnaire to twenty Nurses, Doctors, Administrators and other staff of Qilu Hospital of Shandong University in Shandong Province in the Republic of China and another twenty (20) Nurses, Doctors, Administrators and other staff at Zion praise hospital at Kona in the Sekyere South District of Ashanti Region, Ghana as a pilot study and statistically coded it into SPSS and tested the reliability test for each of the item in the questionnaire. The reliability for each item was above .80, so the researcher proceeded on to administer the questionnaire.

3.8 Pilot Study

The pilot study was a crucial part before asking the respondents to fill out the questionnaires, and there are numerous benefits for carrying out pilot tests (Riemenschneider, Leonard, & Manly, 2019). Apart from assuring the validity and the reliability of the questionnaire, it can also ensure that the questions are clearly worded, and that the respondents understand the questionnaire in the right way (Verzola et al., 2009). The researcher sent a questionnaire to twenty Nurses, Doctors, Administrators and other staff of Jiuquan People's Hospital in the Republic of China. The researcher chose the Jiuquan People's Hospital in the Republic of China for the pilot study because their health professionals were not part of the study. The

researcher gathered the answered questionnaire and coded it in SPSS to check the reliability of each of the item in the questionnaire.

3.9 Data Collection Procedures

The researcher sent application letter which was endorsed by the researcher's supervisor and Head of Department in Information Technology at the University of Education, Winneba – Kumasi to Jiuquan People's Hospital in the Republic of China for the pilot study. The researcher, therefore, sent application letter which was endorsed by the researcher's supervisor and Head of Department in Information Technology at the University of Education, Winneba – Kumasi to Qilu Hospital of Shandong University in Shandong Province in the Republic of China through email and a brother who stays in Shandong Province as a follow-up. The researcher asked permission from respondents before given them questionnaire to answer.

The researcher briefed respondents on the purpose of the study and the procedures of how the data collection was taken using Google forms. The purpose was to ensure that the minds of the respondents were well prepared towards the study. The researcher assisted the respondents in answering the questionnaire if the need arise and gave them more time without a hurry. The questionnaire was sent to Qilu Hospital of Shandong University which was translated into the Chinese language by the participants and translated their responses back in English. The data collection were done through Google forms where a link was sent to participants to click on it. When the participant clicks on the link it located him/her to the questionnaire to fill on online. After filling it online, responses were downloaded from Google forms.

3.10 Data Analysis

Data analysis is the process of simplifying data to make it comprehensible (Cohn et al, 1996). In this research, inferential and descriptive statistics were the method for the analysis of the data which were collected. All the answers to the questions were edited and statistical tables and frequencies were prepared to arrive at percentages corresponding to absolute figures. The researcher used statistical methods such as descriptive analysis, regression analysis and correlation analysis to analyze the data. The hypothesis of the study was tested using regression. The researcher evaluated the findings against theoretical thinking. Tools and software that were used for analyzing the data, particularly, the Statistical Package for Social Sciences (SPSS) and Microsoft EXCEL were used to generate the tables, charts and graphs.

3.11 Ethical Considerations

The researcher waited for an approval to be granted from the board of Qilu Hospital of Shandong University for the protection of human Subjects in research to conduct the current study. This implies that the researcher has an obligation to respect the rights, needs, values and desires of the respondents (Creswell, 2007). Permission was sought from respondents. Each respondent received informed consent before filling out the questionnaire, and the researcher explained how anonymity was maintained throughout the study. No names were asked for at any point in the research and the researcher collected the answered questionnaires immediately after they completed it.

CHAPTER FOUR

ANALYSIS OF RESULTS

4.1 Introduction

The purpose of the study was to examine the knowledge of health professionals and the barriers encountered with the use of Balanced Scorecard for hospital management. The chapter constitutes the demographic background of the study and the results of the study based on the research questions.

4.2 Demographic Characteristics of Respondents

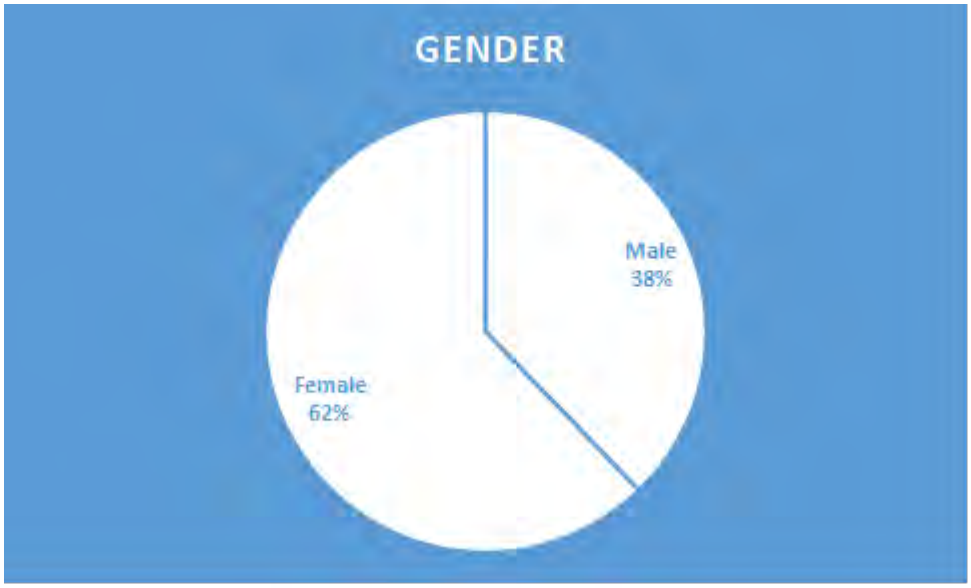

Figure 2: Gender of participants

Source: Researchers' field survey, 2020

Figure 2 shows that one hundred and thirty-six of the respondents representing 38% males and two hundred and twenty-four of the respondents representing 62% are females.

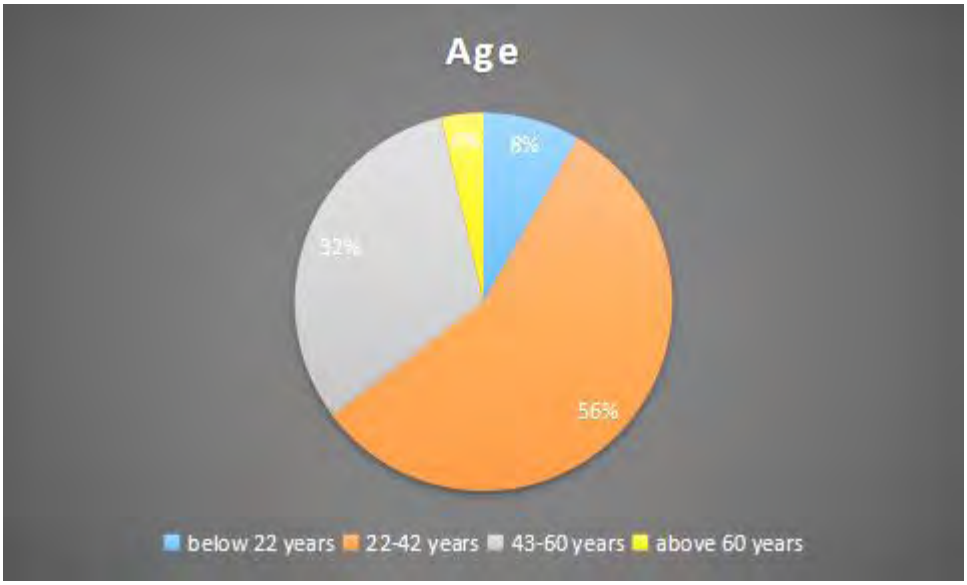

Figure 3: Age of participants

Source: Researchers' field survey, 2020

Figure 3 shows that thirty of the respondents representing 8% are below 22 years, two hundred and three respondents representing 56% are between 22 to 42 years, one hundred and fourteen of respondents representing 32% are between 43 to 60 years, and thirteen of the respondents representing 4% are 60 years and above.

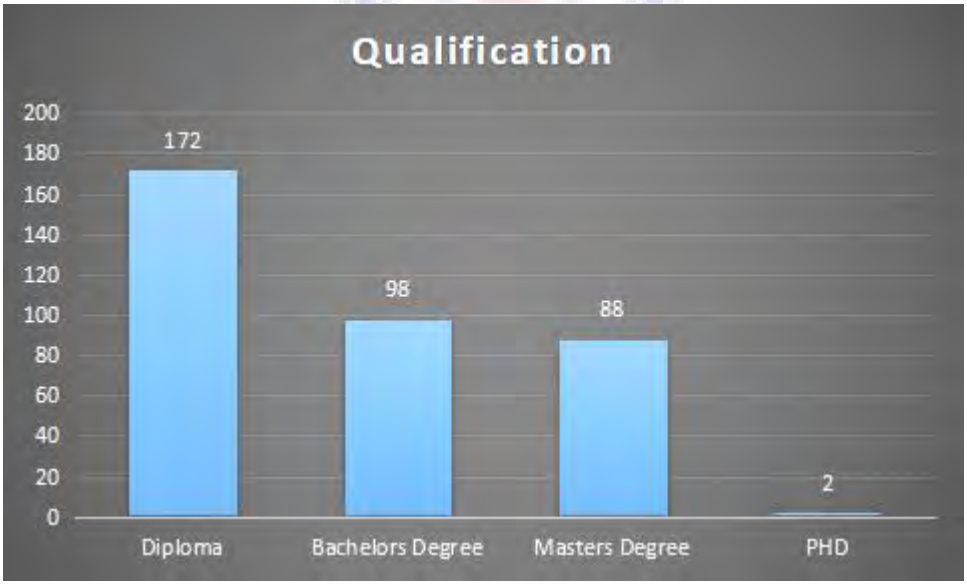

Figure 4: Qualification of participants

Source: Researchers' field survey, 2020

Figure 4 shows that one hundred and seventy-two of the respondents representing 48% hold diploma certificate, ninety-eight of the respondents representing 27% hold bachelor's degree, eighty-eight of the respondents representing 24% hold master's degree, and two of the remaining respondents representing 1% hold PHD.

Figure 5: Work experience of participants

Source: Researchers' field survey, 2020

Figure 5 shows that fifteen of the respondents representing 4% have working experience less than 2 years, one hundred and forty-six of the respondents representing 41% have working experience of 2 to 10 years, one hundred and one of the respondents representing 28% have a working experience of 11 to 20 years, and one ninety-eight of the remaining respondents representing 27% have working experience above 21 years.

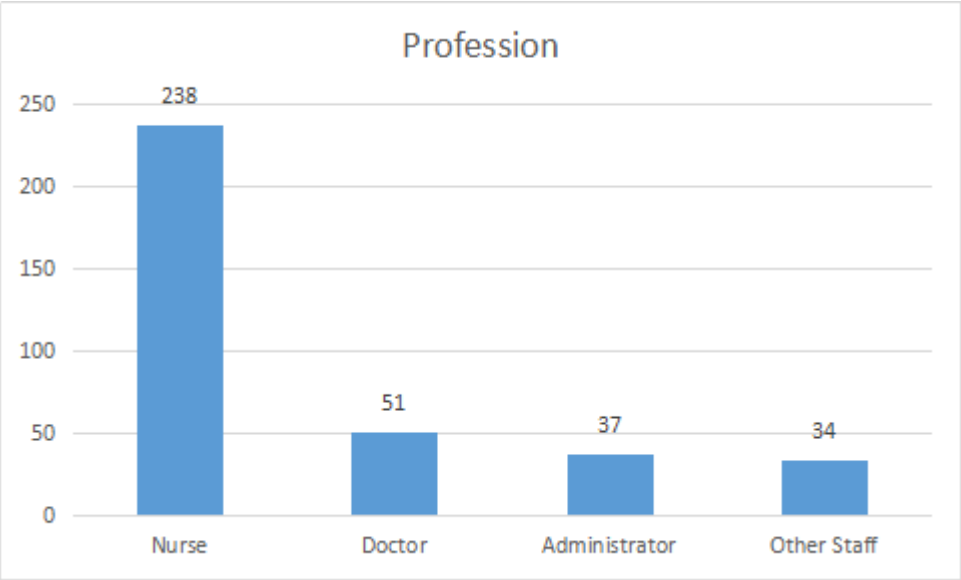

Figure 6: Profession of participants

Source: Researchers' field survey, 2020

Figure 6 shows that two hundred and thirty-eight of the respondents representing 66% are nurse, fifty-one of the respondents representing 14% are doctors, thirty-seven of the respondents representing 10% are administrators at the hospitals, and thirty-four of the remaining respondents representing 10% are classified as other staff.

4.3 Analysis and Interpretation of Research Questions

Research Question one

What is the knowledge of Nurses, Doctors, Administrators and other hospital staff on the use of balanced scorecard?

Factor analysis and descriptive statistics of the questionnaire on the knowledge of Nurses, Doctors, Administrators and other hospital staff on the use of balanced scorecard. For each question participants were asked to indicate the extent to which they agree or disagree using five Likert scales, ranging from strongly agree, agree, slightly agree, disagree and strongly agree. For the results to be interpreted, frequency, mean, standard deviation, skewness, Kurtosis, and percentage were computed for the questions raised.

4.3.1 Descriptive Statistics for Research Question One

Table 1: Descriptive Statistics for Knowledge

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
KBSB8	360	2.00	5.00	4.4889	.78630	-1.657	.129	2.336	.256
KBSB4	360	3.00	5.00	4.4000	.65581	-.639	.129	-.614	.256
KBSB5	360	1.00	5.00	4.3194	1.01557	-1.700	.129	2.675	.256
KBSB2	360	2.00	5.00	4.3139	.76397	-1.203	.129	1.548	.256
KBSB7	360	2.00	5.00	4.3000	.93761	-1.325	.129	.824	.256
KBSB1	360	1.00	5.00	4.2694	1.00813	-1.610	.129	2.506	.256
KBSB3	360	2.00	5.00	4.2139	.91495	-1.183	.129	.687	.256
KBSB6	360	2.00	5.00	4.1222	.97407	-.865	.129	-.310	.256
Valid N (listwise)	360								

Source: Researchers' field survey, 2020

From table 1 above, it indicates that balanced scorecard used to measure performance (KBSB8) had the highest mean of 4.4889 which indicates that balanced scorecard used to measure the performance of a hospital is higher as compared to other factors to the benefits of the balanced scorecard. The next highest factor to the benefit of the balanced scorecard is the measure of process perspective (KBSB4) which had the second-highest mean of 4.4000. The next factor to the benefit of the balanced scorecard is the measure of organizational capabilities perspective (KBSB5) which had the third-highest mean of 4.3194. The next factor to the benefit of the balanced scorecard is making work easier (KBSB2) which had the fourth highest mean of 4.3139. The next factor to the benefit of the balanced scorecard is the measure of customer perspective (KBSB7) which had the fifth-highest mean of 4.3000. The next factor to the benefit of the balanced scorecard is that it is a software that can be used on a different device (KBSB1) which had the sixth-highest mean of 4.2694.

The next factor to the benefit of the balanced scorecard is that it records patients electronically (KBSB3) which had the seventh-highest mean of 4.2139. The next factor to the benefit of the balanced scorecard is the measure of financial perspective (KBSB6) which had the least mean of 4.1222. Also, table 1 shows that the mean ranges from 4.1222 to 4.4889, this shows the centre of the distribution. The measure of dispersion (standard deviation) widely spread the distribution by .65581 to 1.01557 representing the average distance a score is from the mean. The skewness is from -.639 to -1.700 which means the variable is sufficiently normal. The kurtosis of items KBSB3, KBSB4, KBSB6, and KBSB7 is less than 0 which means that it has fewer outliers relative to normal distribution. Items KBSB1, KBSB2, KBSB5, and KBSB8 is greater than 0 and less than 3 which means that it has relatively few outliers and scores are more clustered around the mean.

Table 2: Responses to Research Question one

Items	**SD**		**D**		**SLA**		**Agree**		**SA**	
	F	%	F	%	F	%	F	%	F	%
KBSB1	16	4.4	0	0	51	14.2	97	26.9	196	54.4
KBSB2	16	4.8	0	0	18	5.0	163	45.3	163	45.3
KBSB3	0	0	34	9.4	18	5.0	145	40.3	163	45.3
KBSB4	0	0	0	0	34	9.4	148	41.1	178	49.4
KBSB5	16	4.4	0	0	50	13.9	81	22.5	213	59.2
KBSB6	0	0	34	9.4	49	13.6	116	32.2	161	44.7
KBSB7	0	0	34	9.4	18	5.0	114	31.7	194	53.9
KBSB8	0	0	16	4.4	18	5.0	100	27.8	226	62.8

Key: SD = Strongly Disagree, D = Disagree, SLA = Somewhat Agree, A = Agree, SA = Strongly Agree

Source: Researcher's Field Survey, 2020

Table 2 shows that sixteen respondents representing 4.4% strongly disagreed that they know that a balanced scorecard is a software, fifty-one respondents representing 14.2% slightly agreed that they know that a balanced scorecard is a software, ninety-seven respondents representing 26.9% agreed that they know that a balanced scorecard is a software, and one hundred and ninety-six respondents representing 54.4% strongly agreed that they know that a balanced scorecard is a software. The findings of the study revealed that participants know that a balanced scorecard is software. Table 2 shows that sixteen respondents representing 4.4% disagreed that they know that balanced scorecard can make work easier, eighteen respondents representing 5% slightly agreed that they know that balanced scorecard can make work easier, one hundred and one hundred and sixty-three respondents representing 45.3% agreed that they know that balanced scorecard can make work easier, and one hundred and sixty-three respondents representing 45.3% strongly agreed that they know that balanced scorecard can make work easier. The findings of the study revealed that participants know that balanced scorecard can make work easier.

Table 2 shows that thirty-four respondents representing 9.4% disagreed that they know that balanced scorecard records patients electronically, eighteen respondents representing 5% slightly agreed that they know that balanced scorecard records patients electronically, one hundred and forty-five respondents representing 40.3% agreed that they know that balanced scorecard records patients electronically, and one hundred and sixty-three respondents representing 45.3% strongly agreed that they know that balanced scorecard records patients electronically. The findings of the study revealed that participants know that balanced scorecard records patients electronically. Table 2 shows that thirty-four respondents representing 9.4% slightly

agreed that they know that balanced scorecard measures process perspective, one hundred and forty-eight respondents representing 41.1% agreed that they know that balanced scorecard measures process perspective, one hundred and seventy-eight respondents representing 49.4% strongly agreed that they know that balanced scorecard measures process perspective. The findings of the study revealed that participants know that balanced scorecard measures process perspective.

Table 2 shows that sixteen respondents representing 4.4% strongly disagreed that they know that balanced scorecard measures organizational capabilities perspective, fifty respondents representing 13.9% slightly agreed that they know that balanced scorecard measures organizational capabilities perspective, eighty-one respondents representing 22.5% agreed that they know that balanced scorecard measures organizational capabilities perspective, and two hundred and thirteen respondents representing 59.2% strongly agreed that they know that balanced scorecard measures organizational capabilities perspective. The findings of the study revealed that participants know that balanced scorecard measures organizational capabilities perspective. Table 2 shows that thirty-four respondents representing 9.4% disagreed that they know that balanced scorecard measures financial perspective, forty-nine respondents representing 13.6% slightly agreed that they know that balanced scorecard measures financial perspective, one hundred and sixteen respondents representing 32.2% agreed that they know that balanced scorecard measures financial perspective, and one hundred and sixty-one respondents representing 44.7% strongly agreed that they know that balanced scorecard measures financial perspective. The findings of the study revealed that participants know that balanced scorecard measures the financial perspective.

Table 2 shows that thirty-four respondents representing 9.4% disagreed that they know that balanced scorecard measures customer perspective, eighteen respondents representing 5% slightly agreed that they know that balanced scorecard measures customer perspective, one hundred and fourteen respondents representing 31.7% agreed that they know that balanced scorecard measures customer perspective, and one hundred and ninety-four respondents representing 53.9% strongly agreed that they know that balanced scorecard measures customer perspective. The findings of the study revealed that participants know that balanced scorecard measures customer perspective. Table 2 shows that sixteen respondents representing 4.4% disagreed that they know that balanced scorecard measures performance, eighteen respondents representing 5% slightly agreed that they know that balanced scorecard measures performance, one hundred respondents representing 27.8% agreed that they know that balanced scorecard measures performance and two hundred and twenty-six respondents representing 62.8% strongly agreed that they know that balanced scorecard measures performance. The findings of the study revealed that participants know that balanced scorecard measures performance.

Research Question Two

What is the relationship between the use of balanced scorecard and their hospital management system?

Bivariate correlation was used to analyse the relationship between the use of balanced scorecard and their hospital management system.

4.3.2 Correlation Analysis for Research Question Two

Table 3: Correlation between the use of balanced scorecard and their hospital management system

	BSC	HMS
BSC	1	
HMS	.748**	1

Source: Researcher's Field Survey, 2020

Table 3 shows the relationship between the use of balanced scorecard and the hospital management system. From table 3 above, it shows a positive Pearson Correlation of .748 which means that the high use of balanced scorecard to manage the hospital, the higher the use of hospital management system in managing a hospital. The correlation between the use of balanced scorecard and their hospital management system was positively high (r = .748**2, n = 360, p < 0.05) with a significance level of 0.0%. This explained a 56% variation of the use of balanced scorecard in hospital management system (r2 = .748* .748* 100). The results show that there was a positive and strong statistically significant relationship between the use of balanced scorecard and hospital management system at a significant value of .000. Thus, the significant effect was below .01 and .05 which is significant. The study revealed that the use of balanced scorecard is similar to that of the hospital management system. Moreover, the study shows that a balanced scorecard is used to replace the hospital management system. Also, the study revealed that both the balanced scorecard and hospital management system serve a similar purpose.

Research Question Three

What are the barriers that are encountered by hospitals in adopting the BSC?

Factor analysis and descriptive statistics of a questionnaire on the barriers that are encountered by hospitals in adopting the BSC. For each question participants were asked to indicate the extent to which they agree or disagree using five Likert scales, ranging from strongly agree, agree, slightly agree, disagree and strongly agree. For the results to be interpreted, frequency, mean, standard deviation, skewness, Kurtosis, and percentage were computed for the questions raised.

4.3.3 Descriptive Statistics for Research Question Three

Table 4: Descriptive Statistics for barriers in adopting balanced scorecard

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BABS2	360	1.00	5.00	2.2083	1.45055	.938	.129	-.600	.256
BABS1	360	1.00	5.00	1.9611	1.06273	1.198	.129	1.030	.256
BABS3	360	1.00	5.00	1.9278	1.06098	1.383	.129	1.561	.256
BABS4	360	1.00	5.00	1.9139	1.27142	1.340	.129	.651	.256
Valid N (listwise)	360								

Source: Researchers' field survey, 2020

From table 4 above, it indicates that balanced scorecard is expensive (BABS2) which had the highest mean of 2.2083 which indicates that balanced scorecard being expensive to buy for hospital management is higher as compared to other factors to the barriers in adopting balanced scorecard. The next highest factor to the barriers in adopting balanced scorecard is its complication to use balanced scorecard (BABS1) which had the second-highest mean of 1.9611. The next factor to the barriers in adopting balanced scorecard is time-consuming in using balanced scorecard (BABS3)

which had the third-highest mean of 1.9278. The next factor to the barriers in adopting balanced scorecard is difficult to cope with balanced scorecard (BABS4) which had the least mean of 1.9139. Also, table 4.4 shows that the mean ranges from 1.9139 to 2.2083, this shows the centre of the distribution. The measure of dispersion (standard deviation) widely spread the distribution by 1.06098 to 1.4505 representing the average distance a score is from the mean. The skewness is from .938 to 1.340 which means the variable is sufficiently normal. The kurtosis of items BABS2 and BABS4 are less than 0 which means that it has fewer outliers relative to normal distribution. Items BABS1 and BABS3 are greater than 0 and less than 2 which means that it has relatively few outliers and scores are more clustered around the mean.

Table 4 shows that one hundred and forty-six respondents representing 40.6% strongly disagreed that it is complicated to use the balanced scorecard, one hundred and thirty respondents representing 36.1% disagreed that it is complicated to use the balanced scorecard, fifty-two respondents representing 14.4% slightly agreed that it is complicated to use the balanced scorecard, sixteen respondents representing 4.4% agreed that it is complicated to use the balanced scorecard, sixteen respondents representing 4.4% strongly agreed that it is complicated to use a balanced scorecard. The findings of the study revealed that the use of balanced scorecard is not complicated. Table 4 shows that one hundred and sixty-two respondents representing 45% strongly disagreed that it is expensive to use the balanced scorecard, one hundred and thirty respondents representing 36.1% disagreed that it is expensive to use the balanced scorecard, fifty-two respondents representing 14.4% slightly agreed that it is expensive to use the balanced scorecard, sixteen respondents representing 4.4%

agreed that it is expensive to use the balanced scorecard, sixteen respondents representing 4.4% strongly agreed that it is expensive to use a balanced scorecard. The findings of the study revealed that it is expensive to use a balanced scorecard.

Table 4 shows that one hundred and forty-six respondents representing 40.6% strongly disagreed that the use of balanced scorecard is not time-consuming, one hundred and forty-six respondents representing 40.6% disagreed that the use of balanced scorecard is not time-consuming, thirty-four respondents representing 9.4% slightly agreed that the use of balanced scorecard is time-consuming, sixteen respondents representing 4.4% agreed that the use of balanced scorecard is time-consuming, eighteen respondents representing 5% strongly agreed that the use of balanced scorecard is time-consuming. The findings of the study revealed that the use of balanced scorecard is not time-consuming. Table 4.4 shows that one hundred and forty-six respondents representing 40.6% strongly disagreed that it is difficult to cope with the use balanced scorecard, one hundred and forty-six respondents representing 40.6% disagreed that it is difficult to cope with the use balanced scorecard, thirty-four respondents representing 9.4% slightly agreed that it is difficult to cope with the use balanced scorecard, sixteen respondents representing 4.4% agreed that it is difficult to cope with the use balanced scorecard, eighteen respondents representing 5% strongly agreed that it is difficult to cope with the use balanced scorecard. The findings of the study revealed that it is difficult to cope with the use of balanced scorecard.

4.3.4 Regression Analysis for Hypothesis Testing

Table 5: **Correlations**

	BSC	KnowledgeBSC	Barriers
BSC	1		
KnowledgeBSC	.618	1	
Barriers	.978	.644	1

Source: Researchers' field survey, 2020

From table 5 each item is correlating perfectly with the same kind of its item. Correlation between BSC and KnowledgeBSC is very strong because all the correlation values are below .800 but there is one multicollinearity (high correlation) on barriers where its correlation value is above .800. From table 10 above, it shows a positive Pearson Correlation of .618 which means that the more knowledgeable nurses, doctors, administrators and other hospital staff on balanced scorecard the more they can use a balanced scorecard. Also, a positive correlation of .978 means that the more barriers that are encountered in using balanced scorecard the more users use balanced scorecard in managing the hospital.

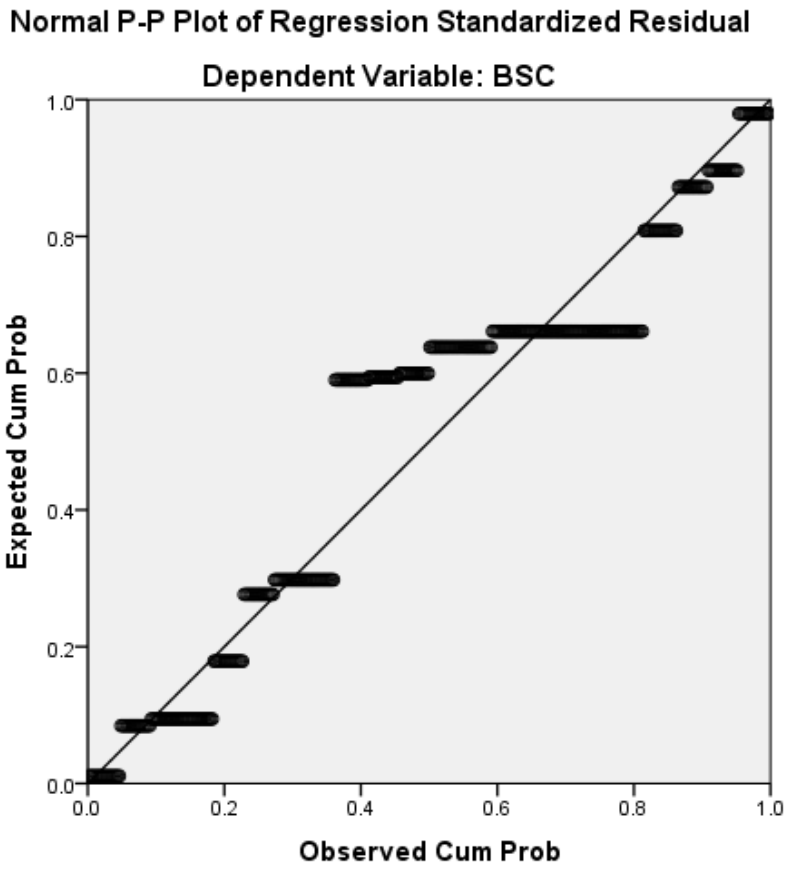

Figure 7: Normal P-P plot

Source: Researchers' field survey, 2020

Figure 7 shows that there is a linear relationship between one of the independent variable and the dependent variable. Although there are some deviations they generally do appear to fall on the line.

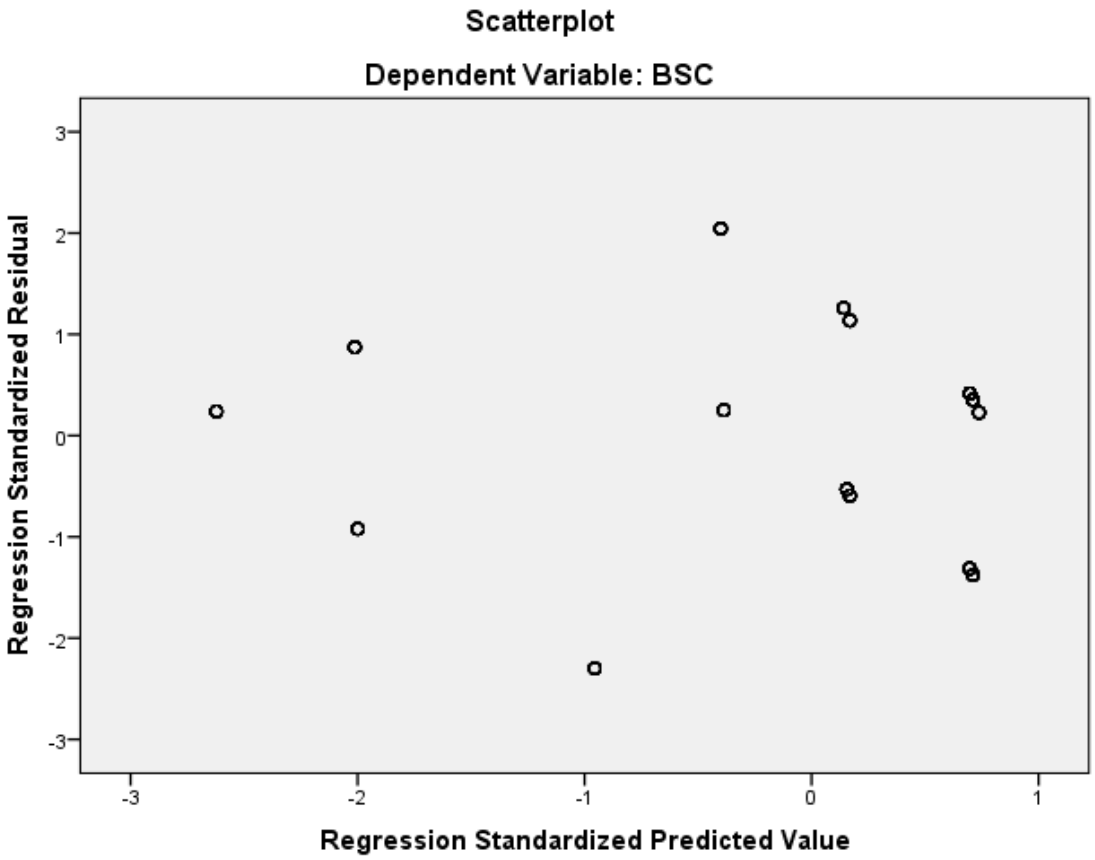

Figure 8: Scatterplot

Source: Researchers' field survey, 2020

Figure 8 shows that none the points fall outside of -3 to 3 on the x-axis or the y-axis. Therefore it is in a good shape.

Table 6: Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.9540	4.9561	4.2972	.89350	360
Std. Predicted Value	-2.623	.737	.000	1.000	360
Standard Error of Predicted Value	.010	.037	.016	.007	360
Adjusted Predicted Value	1.9522	4.9554	4.2973	.89347	360
Residual	-.44299	.39402	.00000	.19218	360
Std. Residual	-2.299	2.045	.000	.997	360
Stud. Residual	-2.308	2.049	.000	1.001	360
Deleted Residual	-.44666	.39565	-.00003	.19353	360
Stud. Deleted Residual	-2.322	2.058	-.001	1.003	360
Mahal. Distance	.037	12.537	1.994	3.115	360
Cook's Distance	.000	.015	.002	.003	360
Centered Leverage Value	.000	.035	.006	.009	360

a. Dependent Variable: BSC

Source: Researchers' field survey, 2020

The minimum value for standard residual from table 6 is -2.299 and the maximum standard residual is 2.045 which is in a good range because it is not outside of -3 and 3. The Cook's distance from table 6 has a minimum of .000 and a maximum of .015 which is okay because none of them is greater than one.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.978[a]	.956	.956	.19271	.956	3858.598	2	357	.000

a. Predictors: (Constant), Barriers, KnowledgeBSC

b. Dependent Variable: BSC

Source: Researchers' field survey, 2020

From the R Square in table 7 the value is .956 which is greater than .3 and is considered as a good fit. The R square from table 18 is .956 which means barriers that are encountered and the knowledge of nurses, doctors, administrators and other hospital staff account for only 95.6% of the variation in the use of balanced scorecard at the hospital. Therefore 4.4% of the variation in the use of balanced scorecard is explained by other factors. So barriers that are encountered and the knowledge of nurses, doctors, administrators and other hospital staff explain almost all of the factors that explain the use of balanced scorecard. Also, a positive correlation of .956 means that the more barriers that are encountered in using balanced scorecard the more users use balanced scorecard in managing the hospital

Table 8: **ANOVA**

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	286.605	2	143.303	3858.598	.000[b]
	Residual	13.258	357	.037		
	Total	299.864	359			

a. Dependent Variable: BSC

b. Predictors: (Constant), Barriers, KnowledgeBSC

Source: Researchers' field survey, 2020

The significant value from table 8 of ANOVA is .000 which is below .001 and .005. This indicates that there is a statistically significant effect of barriers that are encountered and the knowledge of nurses, doctors, administrators and other hospital staff in the use of balanced scorecard.

Table 9: **Coefficients**

Model					t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.077	.059		1.310	.191			
	KnowledgeBSC	-.024	.017	-.021	-1.441	.150	.618	-.076	-.016
	Barriers	.993	.015	.991	68.094	.000	.978	.964	.758

a. Dependent Variable: BSC

Source: Researchers' field survey, 2020

From table 9 the constant is the intercept in the regression co-efficient and that is .077. From table 20, -.024 and .993 from the standardized coefficient standardize the contribution of the variables. There the barriers contribution is higher than that of knowledge BSC. From table 9, -.024 and .993 representing the slow or rise for each unit of barriers that are encountered and knowledge of nurses, doctors, administrators and other hospital staff respectively in a year. Thus, when the independent variables increase by two years, the regression coefficient will be multiplied by 2 which will be -.048 and 1.986 respectively. So as barriers that are encountered and knowledge of nurses, doctors, administrators and other hospital staff on the use of balanced scorecard increase yearly, the use of balanced scorecard rises. For the significant value, knowledge BBC is not significant but barriers have a significant value of .000. Under the correlation, the partial or semi-partial correlation is used to describe the unique contribution of each predictor variable. Therefore the greatest unique contribution is for barriers encountered in using the balanced scorecard.

4.4 Discussion of Findings

The first objective of the study was to assess the knowledge of Nurses, Doctors, Administrators and other hospital staff on the use of balanced scorecard in hospital management. About 95.6% of the health workers representing three hundred and forty-four know that balanced scorecard is a software (14.2% slightly agreed, 26.9% agreed, 54.4% strongly agreed) which had the sixth-highest mean of 4.2694. About 95.6% of the health workers representing three hundred and forty-four know that balanced scorecard can make work easier (5% slightly agreed, 45.3% agreed, 45.3% strongly agreed) which had the fourth highest mean of 4.3139. About 90.6% of the health workers representing three hundred and twenty-six know that balanced scorecard records patients electronically (5% slightly agreed, 40.3% agreed, 45.3% strongly agreed) which has the seventh-highest mean of 4.2139. About 100% of the health workers representing three hundred and sixty know that balanced scorecard measures process perspective (9.4% slightly agreed, 41.1% agreed, 49.4% strongly agreed) which had the second-highest mean of 4.4000.

About 95.6% of the health workers representing three hundred and forty-four know that balanced scorecard measures organizational capabilities perspective (13.9% slightly agreed, 22.5% agreed, 59.2% strongly agreed) which had the third-highest mean of 4.3194. About 90.6% of the health workers representing three hundred and twenty-six know that balanced scorecard measures financial perspective (13.6% slightly agreed, 32.2% agreed, 44.7% strongly agreed) which had the least mean of 4.1222. About 90.6% of the health workers representing three hundred and twenty-six know that balanced scorecard measures customer perspective (5% slightly agreed, 31.7% agreed, 53.9% strongly agreed) which had the fifth-highest mean of 4.3000.

About 95.6% of the health workers representing three hundred and forty-four know that balanced scorecard measures performance (13.9% slightly agreed, 22.5% agreed, 59.2% strongly agreed) which had the highest mean of 4.4889.

The second objective was to identify the relationship between the use of balanced scorecard and their hospital management system. About 95.6% of the health workers representing three hundred and forty-four describe the relationship between the use of balanced scorecard and hospital management system as similar (9.4% slightly agreed, 22.5% agreed, 63.6% strongly agreed). About 81.4% of the health workers representing two hundred and ninety-three describe the relationship between the use of balanced scorecard and hospital management system that balanced scorecard can replace hospital management system (18.1% agreed, 63.3% strongly agreed). About 86.4% of the health workers representing two hundred and ninety-three describe the relationship between the use of balanced scorecard and hospital management system that both balanced scorecard and hospital management system serve a similar purpose (5% slightly agreed, 31.4% agreed, 50% strongly agreed). The results showed a positive Pearson Correlation of .748 which means that the high use of balanced scorecard to manage the hospital, the higher the use of hospital management system in managing a hospital. The results found that there was a positive and strong statistically significant relationship between the use of balanced scorecard and hospital management system at a significant value of .000.

The third objective of the study was to determine the barriers that are encountered by hospitals in adopting the BSC. About 76.7% of the health workers representing two hundred and seventy-six disclosed the barriers that are encountered by hospitals in adopting the balanced scorecard to be the complications on the use of balanced

scorecard (130% disagreed, 146% strongly disagreed) which had the second-highest mean of 1.9611. About 71.7% of the health workers representing two hundred and fifty-eight disclosed the barriers that are encountered by hospitals in adopting the balanced scorecard to be the cost of acquiring balanced scorecard (130% disagreed, 146% strongly disagreed) which had the highest mean of 2.2083. About 81.1% of the health workers representing two hundred and ninety-two disclosed the barriers that are encountered by hospitals in adopting the balanced scorecard to be time-consuming in the use of balanced scorecard (40.6% disagreed, 40.6% strongly disagreed) which had the third-highest mean of 1.9278. About 76.7% of the health workers representing two hundred and ninety-two disclosed the barriers that are encountered by hospitals in adopting the balanced scorecard is attributed to the difficult to cope with the use of balanced scorecard (54.2% disagreed, 22.5% strongly disagreed) which had the least mean of 1.9139.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONSS

5.1 Introduction

The purpose of the study was to examine the knowledge of health professionals and the barriers encountered with the use of Balanced Scorecard for hospital management. The chapter constitutes the summary, conclusion, recommendations, and future studies.

5.2 Summary

The balanced scorecard is a performance measurement and strategic management system. It deciphers an organization's mission and strategy into a balanced set of incorporated performance measures. It supplements the customary financial perspective with other non-financial perspectives, for example, consumer loyalty, the inner business process just as learning and development. It additionally blends result measures, the slacking pointer, with performance drivers, the leading indicator, since "result measures without performance drivers do not convey how the results are to be accomplished" (Kaplan and Norton, 1996, p. 105). The study revealed that among all the factors that contribute to the knowledge of Nurses, Doctors, Administrators and other hospital staff on the use of a balanced scorecard, balanced scorecard used to measure the performance of a hospital is higher as compared to other factors to the benefits of the balanced scorecard was high.

Among all the factors that contribute to the barriers that are encountered by hospitals in adopting the balanced scorecard, balanced scorecard being expensive to buy for hospital management is higher as compared to other factors to the barriers in adopting balanced scorecard. The findings of the study revealed that participants know that balanced scorecard records patients electronically and balanced scorecard measures performance. The study showed that the use of balanced scorecard is similar to that of the hospital management system and the balanced scorecard is used to replace the hospital management system. The study found that both balanced scorecard and hospital management system serve a similar purpose, the use of balanced scorecard is not complicated and that it is not expensive to use a balanced scorecard. The correlation between the use of balanced scorecard and their hospital management system was positively high with a significance level of 0.0%. This explained a 56% contribution to the use of balanced scorecard in the hospital management system.

5.3 Conclusion

The study revealed that health professionals know that balanced scorecard records patients electronically, measures process perspective, measures organizational capabilities perspective, measures financial perspective, measures customer perspective, measures performance, and make work easier. The results found that there was a positive and strong statistically significant relationship between the use of balanced scorecard and hospital management system at a significant value of .000. This means that the use of balanced scorecard is similar to that of the hospital management system, the balanced scorecard is used to replace hospital management system and that both balanced scorecard and hospital management system serve a similar purpose. Notwithstanding, the study showed that the use of balanced scorecard

is not complicated, too expensive, time-consuming, and not difficult to cope with. There was a positive Pearson Correlation of .618 which means that the more knowledgeable nurses, doctors, administrators and other hospital staff on balanced scorecard the more they can use a balanced scorecard. Also, there was a positive correlation of .978 which means that the more barriers that are encountered in using balanced scorecard the more users use balanced scorecard in managing the hospital. The greatest unique contribution was for barriers encountered in using the balanced scorecard.

5.4 Recommendations

Using the BSC to make management objectives including evaluation and compensation more consistent can motivate managers to achieve better results, it should be noted that using the BSC both to facilitate decision making and as a basis for evaluation and compensation can lead to opportunistic behaviour (ie, the goals set may be too ambitious or, conversely, too easily achievable and therefore biased downward or upward depending on the information available to the parties involved) (Bisbe & Barrube, 2012). It is recommended that hospitals in Ashanti Region should use balanced scorecard for hospital management. The study recommends that nurses, doctors, administrators and other health workers at the various health facilities in Ghana should be educated and giving in-service training on the effective and efficient use of balanced scorecard in hospital management. Ministry of health and other health bodies in Ghana should help in their capacity to bridge the barriers that are encountered by hospitals in adopting balanced scorecard. The study found that there was a 4.4% of the variation in the use of balanced scorecard is explained by other factors so the study recommends that further studies can look into those factors.

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APPENDIX A

QUESTIONNAIRE FOR IMPROVING THE USE OF INFORMATION SYSTEMS FOR HOSPITAL MANAGEMENT USING BALANCED SCORECARD FRAMEWORK

Dear respondent, this questionnaire is designed to gather information about improving the use of information systems for hospital management using balanced scorecard framework: an experimental study between Qilu Hospital of Shandong University and Zion Praise Hospital. The confidentiality and anonymity of your responses are assured. The information you provide will be used for academic purpose only.

Category One – Demographic Variables

Please underline the appropriate answer that best suit you.

GENDER:	Male/Female
AGE:	Below 22 years/22-42 years/43-60 years/above 60 years
WORK EXPERIENCE:	Below 2 years/2-10 years/11-20 years/above 21 years
QUALIFICATION:	(Highest): Diploma [ ] Bachelor's Degree [ ]
	Master's Degree [ ] others specify……..
PROFESSION:	Nurses, Doctors, Administrators and other Staff

Please, tick [√] the response which corresponds with your background information.

Use the scale 1 – 5, where 1 – strongly disagree 2 – disagree 3 – slightly agree

4 – agree 5 – strongly agree

	STATEMENT	1	2	3	4	5
	KNOWLEDGE ON BALANCED SCORECARD BENEFITS					
1	I know that balanced scorecard is a software.					
2	I know that balanced scorecard can make work easier					
3	I know that balanced scorecard records patients electronically					
4	I know that balanced scorecard measures process perspective					
5	I know that balanced scorecard measures organizational capabilities perspective					
6	I know that balanced scorecard measures financial perspective					
7	I know that balanced scorecard measures customer perspective					
8	I know that balanced scorecard measures performance					
	RELATIONSHIP BETWEEN THE USE OF BALANCED SCORECARD AND HOSPITAL MANAGEMENT SYSTEM					
1	Balanced scorecard is similar to hospital management system					
2	Balanced scorecard can replace hospital management system.					
3	Both balanced scorecard and hospital management system serve similar purpose					
	BARRIERS IN ADOPTING BALANCED SCORECARD					
1	It is complicated to use					
2	It is expensive					
3	It is time consuming					
4	It is difficult to cope with					